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ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA—1987

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
NATIONAL SECURITY ECONOMICS

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ONE HUNDREDTH CONGRESS

SECOND SESSION

PART 13

EXECUTIVE SESSIONS

APRIL 13 AND 21, 1988

Printed for the use of the Joint Economic Committee

U.S. GOVERNMENT PRINTING OFFICE

90-586 WASHINGTON : 1989

5841-9

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

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ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA—1987

WEDNESDAY, APRIL 13, 1988

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON NATIONAL SECURITY ECONOMICS
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in executive session, in room SD-538, Dirksen Senate Office Building, Hon. William Proxmire (chairman of the subcommittee) presiding.

Present: Senator Proxmire and Representative McMillan.

Also present: Richard F Kaufman, general counsel.

OPENING STATEMENT OF SENATOR PROXMIRE, CHAIRMAN

Senator PROXMIRE. This is the 15th year of the annual hearings on the "Allocation of Resources in the Soviet Union and China." It will be the last in the series that I preside over, but not the last in the series. I will be retiring at the end of this year. The Joint Economic Committee performed the role of monitoring developments in the centrally planned economies before I came to the Senate, and I am confident it will continue performing this role after I leave.

It is interesting that the United States and the Soviet Union were in a period of détente when these hearings began in 1974, and we now appear to be entering a new period of improved relations. Hopefully, this period will last longer and produce more meaningful results than the earlier one.

But the questions before this subcommittee are more factual and analytical. Our purpose is to improve understanding of how the economies of the Soviet Union and China work. Today we will focus on the Soviet Union. A review of developments in China is scheduled for April 21.

Momentous changes are taking place in both countries. It seems ironic that the Soviet Union introduced its version of communism into China and the East European countries and is now importing economic reforms from some of those countries.

THREE YEARS UNDER GORBACHEV

Three years have now passed since Mikhail Gorbachev took over as leader of the Soviet Union. In that time he has introduced a number of reforms and made other proposals for change which he called revolutionary in character.

There are many important aspects to the reforms. To me, it is most significant that a Soviet leader has admitted that the Stalinist system of central planning has failed.

At this point in history, it is fair to say that the Western mixed capitalist systems are winning the economic race with socialist central planning.

The questions we must now address concern what happens in the future, the degree and nature of change in the socialist countries, and whether more peaceful and productive relationships are possible. It should go without saying that we have to continue to watch closely and analyze carefully economic developments in the Soviet Union.

This morning we will hear from spokesmen from the Central Intelligence Agency and the Defense Intelligence Agency, who have prepared a joint report entitled "Gorbachev's Economic Program: Problems Emerge." The joint report will be made part of the hearing record.

Our witnesses will be Douglas J. MacEachin, Director of the Office of Soviet Analysis for the CIA, and Major General Frank B. Horton III, Deputy Director for Foreign Intelligence, DIA.

Congressman McMillan, do you have an opening statement?

Representative McMillan. I have no opening statement.

Senator Proxmire. Gentlemen, I welcome both of you before the subcommittee. I would like each of you to spend about 10 minutes summarizing your joint report and then we will go directly to our questions.

I hope that we can sanitize the results of the hearing as promptly as possible and make them available to Members of Congress and to the public.

[The joint report of the CIA and DIA follows:]

"GORBACHEV'S ECONOMIC PROGRAM: PROBLEMS EMERGE"

A REPORT

BY THE

CENTRAL INTELLIGENCE AGENCY

AND THE

DEFENSE INTELLIGENCE AGENCY

PRESENTED TO THE

SUBCOMMITTEE ON NATIONAL SECURITY ECONOMICS

OF THE

JOINT ECONOMIC COMMITTEE

APRIL 13, 1988

Summary

Gorbachev's ambitious program to create a modern, more dynamic Soviet economy ran into trouble in 1987. Familiar problems with poor weather and transportation bottlenecks were compounded by the disruptions caused by the introduction of economic reforms, with the result that Soviet GNP grew by less than one percent last year--a rate reminiscent of the late Brezhnev period.

The new quality-control program (gospriyemka) introduced in 1500 industrial enterprises proved to be particularly disruptive, especially early in the year. The introduction of wage reform, ministerial and enterprise staff reductions, and, to a lesser extent, new financial reforms, further complicated the enterprise managers' already difficult and confusing task. Buffetted by these disruptions, industry grew by only about 1.5 percent, and the critical civilian machine-building sector did not expand at all. Harsh weather also hampered agriculture, where output fell 3 percent below the previous year's record level.

The effects of the sharp slowdown in growth were felt unevenly across the economy. In line with Gorbachev's emphasis on the modernization program, investment appears to have been given top priority. Major defense programs also appear to have continued on track, although Gorbachev demanded that the armed forces use resources more efficiently and some cost cutting measures were apparently instituted. The real loser in 1987 appeared to be the consumer who--now three years into Gorbachev's economic program--has seen almost no increase in his standard of living.

While slow growth in Soviet GNP--and the attendant problems in resource allocations--were the most obvious signs of the economy's difficulties, the real problems for Gorbachev lay elsewhere. The leadership had hoped that a strong economic performance last year would provide a firm foundation for the

future development of Gorbachev's economic program, but this did not occur. Enterprises still appear to be confused by contradictory guidelines for implementing the self-financing reforms being introduced this year; shortfalls in 1987 machinery output will limit the pace of modernization; and transportation bottlenecks persist. In addition, shortages of consumer goods, reduced job security, and widespread concern over potential increases in consumer prices are undercutting the prospects for improved worker productivity.

In light of these problems, the short-term outlook for Gorbachev's economic program is not good. Although considerable year-to-year fluctuations are possible due to weather and other external factors, we project average annual GNP growth of 2 percent or less during the rest of this Five-Year Plan (1988-90). Under these circumstances, we believe that if, as seems likely, the leadership continues to pursue its high-investment strategy and provides some increase in consumer goods to motivate workers, it will have to tap resources from one or all three of the following areas:

Defense--Defense currently claims 15-17 percent of GNP--including an especially large share of the output of the critical machine-building sector and large shares of the highest quality materials--and, thus is a prime candidate to support Gorbachev's modernization program. The defense industries are already being drawn into helping the consumer-oriented industries, and the military is placing increasing emphasis on more efficient use of resources and on personnel accountability.

Other Sectors--Gorbachev could also try to slow the growth of investment to other sectors of the economy to find additional resources for modernization and the consumer. Energy and agriculture, which take about half of Soviet investment annually, are prime candidates, although any major reductions in these sectors would disrupt output, which could have a ripple effect across the economy.

Abroad--Continued economic difficulties would make increased imports an attractive option, especially in selected areas such as energy and machine tools. Although Gorbachev has repeatedly indicated that the machinery for modernization must come primarily from domestic production, the Soviet credit rating in the West remains good and the USSR has considerable room to expand imports beyond the current levels.

Prospects for increasing imports from Eastern European allies--which need machinery for their own domestic modernization programs--are less bright.

While it is still too early to tell how far Gorbachev will go in tapping each of these sources, we should begin to get some good indications as to the choices the Soviets are making over the next year. Decisions on economic reform will probably be made and the fundamental goals of the next fifteen-year plan (1991-2005) could be unveiled at the All-Union Party Conference in June--the first such conclave in nearly 50 years. The emphasis placed on traditional growth targets as opposed to modernization and reform in leadership speeches and the Soviet press will provide additional insights into the policies Gorbachev intends to pursue.

Whatever direction Gorbachev follows, we believe that if the economy continues to perform poorly in the next few years, tension within society and the leadership will increase. Bureaucrats will become increasingly frustrated by loss of privileges and status and by demands that they show greater initiative. Military leaders are likely to become more and more uneasy if benefits from the industrial modernization fail to materialize. Soviet citizens will need to see some improvement in living standards if the regime is to achieve necessary gains in worker productivity and avoid widespread discontent. Although Gorbachev appears to be working against no set timetable, failure to head off these tensions would, at a minimum, make it more difficult to pursue his economic program vigorously and could, ultimately, call into question his strong political position at home.

Scope Note

This joint CIA-DIA report is the third in a series evaluating the performance of the Soviet economy under Gorbachev and analyzing trends in resource allocation. Data on Soviet economic performance in 1987 are preliminary and, as in past years, will probably be revised slightly as more complete information on 1987 results becomes available.

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Introduction

Last year--Mikhail Gorbachev's third in power--was expected by both Western observers and the Soviets themselves to mark an important stage in the Soviet leader's efforts to revitalize the USSR's economy. After enjoying respectable growth in 1986, the Soviets launched a new program of quality control designed to make such increased growth a more meaningful and legitimate indicator of progress than in the past. They also proceeded with their efforts to strengthen the discipline in the workplace, modernize the industrial base and reform their system of economic incentives. In so doing, however, they came face-to-face with problems that highlighted the extraordinary difficulties of their task. This joint CIA-DIA report assesses Gorbachev's program as the Soviets approach the midway point of the Twelfth Five-Year Plan (1986-90). It begins by describing his policies, how they have fared so far, and the impact they have had on Soviet military programs. The paper then analyzes Soviet economic prospects through the early 1990s, noting possible adjustments Gorbachev might make to his policies should his program continue to falter. Finally, the paper discusses possible leading indicators of changes in Soviet economic policy.

Gorbachev's Gameplan

Gorbachev has grouped his efforts to revive the economy under the broad rubric of perestroyka, a term that includes three major elements--tighter economic discipline, industrial modernization, and economic reform. He has characterized his program as one of "in-depth, truly revolutionary transformations" and justified the need for such professedly radical measures by claiming that by the time he came to power the Soviet economy had reached a "precrisis" stage.

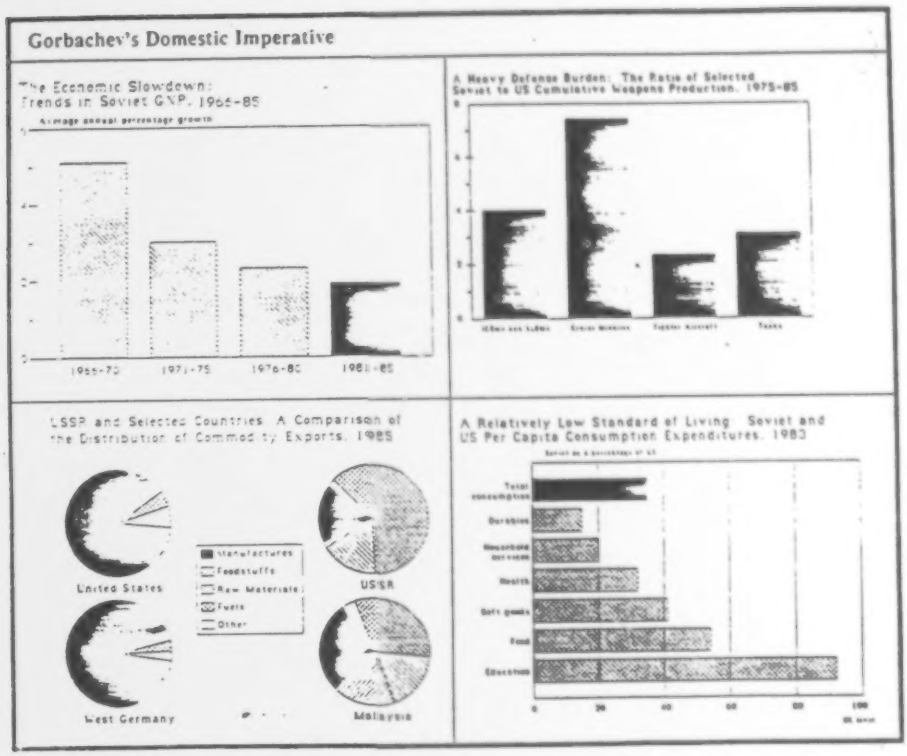
Clearly, Gorbachev has some basis for his harsh description of the late

Brezhnev period and the Andropov and Chernenko years. During the decade prior to 1985, the Soviet economy not only experienced a sharp slowdown in growth but also failed to match the West's rapid rate of technological advance. Although the USSR continued to strengthen its strategic and conventional military forces during this period--primarily by devoting a large share of resources to defense--the Soviet leadership had reason to be concerned that prolonged economic and technological stagnation would weaken the USSR's military position and undermine Soviet global gains (see figure 1).

When Gorbachev became General Secretary in March 1985, however, the planning process for the 12th Five-Year Plan (1986-90) was nearly complete. Although he made some adjustments to the plan, he was limited in his ability to institute major new programs. Thus, he initially sought and achieved some short-term gains by extending and intensifying Andropov's discipline campaign, by making wholesale personnel changes, and by reorganizing the bureaucracy. At the same time, he laid the groundwork for a longer-term strategy by calling for a reversal of the slowdown in investment growth that began in the 1970s. In 1987, Gorbachev expanded his efforts by instituting a quality control program (gospriyemka) and by embracing an economic reform program that goes much further than that of his predecessors.

Although Gorbachev's program is comprehensive, it is in some respects inconsistent, particularly with regard to timing. For example, his goals for an immediate acceleration in the growth of national income and a pronounced improvement in the quality of output are, in our view, fundamentally incompatible, while his plan to change traditional economic planning and administrative procedures dramatically has been thrust upon a largely unprepared bureaucracy. Nonetheless, at least initially, the economy showed some signs of revival under Gorbachev's prodding. Good weather and the discipline campaign combined to boost economic growth during the last half of 1985 and 1986

Figure 1


Gorbachev's Domestic Imperative
The Economic Slowdown: Trends in Soviet GNP, 1966-85
Average annual percentage growth
1966-70
1971-75
1976-80
1981-85
A Heavy Defense Burden: The Ratio of Selected Soviet to US Cumulative Weapons Production, 1975-85
USSR and Selected Countries: A Comparison of the Distribution of Commodity Exports, 1985
United States
West Germany
USSR
Malaysia
Manufactures
Foodstuffs
Raw Materials
Fuels
Other
A Relatively Low Standard of Living: Soviet and US Per Capita Consumption Expenditures, 1983
Total consumption
Durables
Housing services
Health
Soft goods
Food
Education

1987, however, as Gorbachev's broader program was put in place, its inherent conflicts surfaced and caused major disruptions throughout the economy.

1987: A Difficult Year

The growth targets in the 1987 Soviet economic plan were extremely ambitious, even if the Soviets had not planned to introduce a host of new economic and administrative reforms. Yet, even while calling for high rates of growth across all sectors of the economy, the Soviets introduced gospriyemka in 1500 enterprises (producing about 20 percent of industrial output) and implemented new financial and managerial arrangements in selected factories. Although the leadership realized that changes of this magnitude would be disruptive, the Soviets almost certainly did not fully anticipate the difficulties that ensued. For example, monthly government plan fulfillment reports repeatedly criticized economic managers for not anticipating and dealing with the disruptions that occurred. These disruptions, combined with weather-related problems and supply bottlenecks, resulted in Soviet GNP growth of less than 1 percent in 1987--a rate reminiscent of the late Brezhnev years (see table 1 and figure 2).

Table 1

USSR: GNP by Sector of Origin[1]
(annual percentage growth)

	1981-85	1985	1986	1987[2]
GNP	1.9	0.6	3.9	0.5
Agriculture[3]	2.1	-1.6	8.2	-3.1
Other Sectors	1.9	1.8	2.5	2.0
of which:				
Industry	1.7	1.5	2.5	1.5

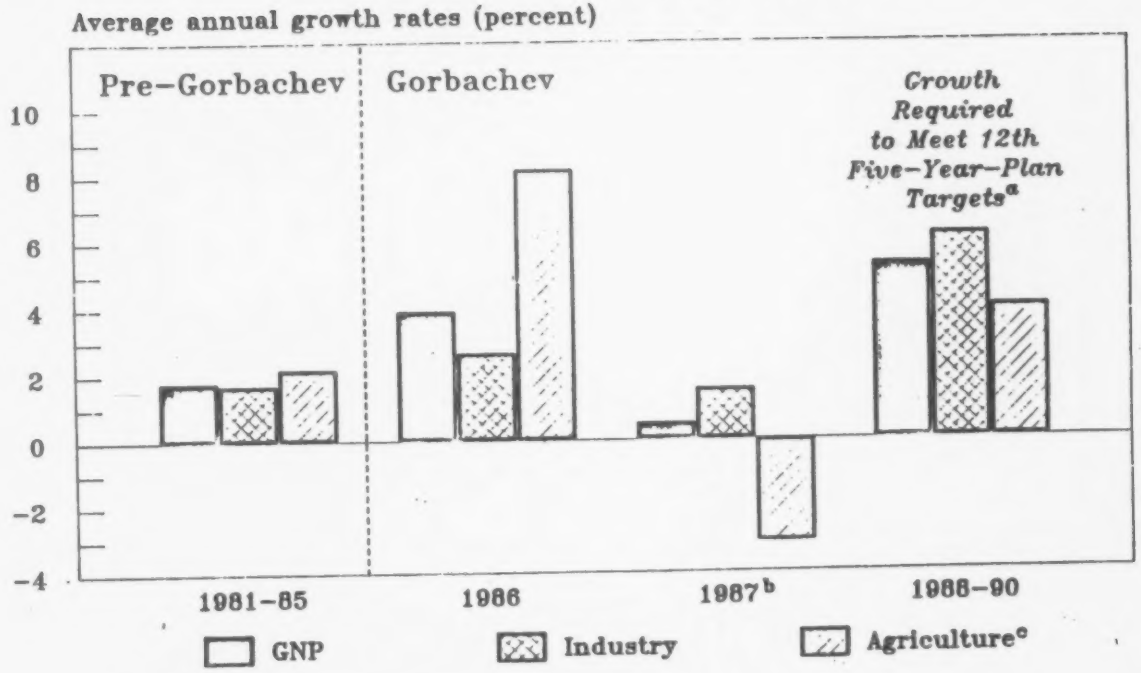
1 CIA estimate calculated in 1982 rubles at factor cost.

2 Preliminary.

3 This measure of agricultural output excludes intra-agricultural use of farm products but does not make an adjustment for purchases by agriculture from other sectors. Value added in agriculture declined by 5.2 percent in 1987, compared with an average annual rate of growth of 2.7 percent in 1981-86.

Figure 2

USSR: Economic Growth, 1981–90



[a] Soviet measure of gross value of output

[b] Preliminary

[c] Net of feed, seed, and waste

Almost all sectors of the economy failed to match the gains achieved in 1986. After registering a modest increase in 1986, industrial growth dipped to 1.5 percent, with performance in seven out of the 10 industrial branches down compared with 1986. The machine-building sector--key to Gorbachev's modernization plans--registered no increase in output, and the resulting shortfalls in equipment for investment reverberated throughout industry and the rest of the economy (see inset). Producers of basic materials--metals, chemicals, and so forth--also failed to meet plans, posting lower growth than in 1986. Exacerbating industry's problems, the volume of freight transported was nearly the same as in 1986. On a more positive note, the energy sector did well, as higher investment in 1986 and 1987 yielded dividends. As a result, the economy was relatively free of energy bottlenecks, and Moscow was able to boost its hard currency earnings by stepping up fuel exports to the West. (See Appendix A for a more detailed description of Soviet economic performance in 1987. Appendix B presents selected statistics on the Soviet economy.)

Agricultural output, meanwhile, was down 3 percent from 1986's record level. Nonetheless, Soviet success in maintaining relatively high agricultural output in 1987 in the face of less than favorable weather reflected at least a partial victory for Gorbachev's farm policy. Crop production declined by 5 percent, as late spring and heavy frosts in May caused a 30-percent drop in fruit output and problems for other crops. A 211-million-ton grain harvest, while the largest since 1978, was only 1 million tons more than the 1986 harvest and thus contributed little to growth. Moreover, the poor quality of the harvest--due to wet weather during the harvest--led to increased imports of milling-quality wheat during the second half of the year. The grain harvest, however, did combine with an excellent forage crop and sizable grain imports to boost meat, milk and egg production to new records.

Inset

Machine Building--The Focus of Gorbachev's Modernization Plans

Gorbachev has argued that the key to long-lasting improvement of the USSR's economic situation is the continuous introduction of increasingly productive machinery and equipment. The modernization program, therefore, depends heavily on improvements in machine building and metalworking--the sector that produces these producer durables, as well as consumer durables and military hardware. The ambitious targets of the 1986-90 plan reflect the sector's importance:

-- Output is to increase by 43 percent during 1986-90.

-- Targets for high-technology equipment are even higher. Planned growth rates are especially high for numerically controlled machine tools (125 percent), computer equipment (150 percent), flexible manufacturing systems (200 percent), robots (225 percent), and processing centers (330 percent).

-- Quality and technological level are to improve dramatically. By 1990, 85-90 percent of the most important types of machinery output will be up to "world technical levels," compared with 13-15 percent for civilian machinery in 1986. New machinery is to be at least 50-100 percent more productive and reliable than previously produced equipment.

-- New machinery is to be introduced more quickly than in the past--by 1990, 13 percent of machine-building output is to be in its first year of production, up from 3 percent in 1985.

-- By 1990, 60 percent of the sector's own machinery is to be new, i.e., brought on line during the preceding five years. To reach this goal, investment in civil machine-building ministries is to rise by 80 percent. Meanwhile, the withdrawal rate for old capital is to double by 1990, while the withdrawal rate for machinery is to quadruple.

While indifferent performance in industry and agriculture was the most obvious sign of the economy's problems, the real "bad news" lay elsewhere. The leadership had hoped that a strong economic performance last year would provide a foundation for the future development of Gorbachev's economic program. It was counting on more machinery of higher quality to accelerate production in 1988 and beyond, a shift in output to newer products to help the modernization drive's push for product renewal, and advances in gospriyemka, self-financing, and wage reform to provide a base for greatly expanding reform in 1988. If such a foundation had been laid, then low overall growth would not be a serious concern. It could even be taken as a sign that Gorbachev's initiatives were being implemented.

This, however, was not the case. Shortfalls in machine building will limit investment growth, especially in 1988. Moreover, to judge from reports in the Soviet press and leadership speeches, there was no major improvement in overall product quality. Finally, problems encountered with the introduction of self-financing and wage reform, combined with the alarms sounded by Soviet economists regarding the lack of preparation for changes this year suggest that 1987 also failed to lay the proper groundwork for expanding reforms.

In short, the USSR enters 1988 with many of the same problems that it started with in 1987--low worker productivity, poor quality machinery throughout much of the economy, and a society ill-prepared for economic reform. Unless Gorbachev can achieve better results this year in implementing his program than last, his efforts to revitalize the economy are likely to falter and tensions within the leadership are certain to mount as the Soviets are forced to make increasingly tough resource allocation decisions.

What Went Wrong?

Harsh winter weather early in the year, traditional supply problems, the introduction of a disruptive quality control campaign, difficulties with self-financing and other new economic reforms, retooling, and a slackening of labor discipline all contributed to the Soviet economy's lackluster performance in 1987.

A record cold snap in January and unseasonably heavy snowfalls in February hit hard at basic materials, accounting in large part for the falloff in their growth. Production stalled because of interruptions of raw material supplies, transport bottlenecks, and increased requirements for fuel and lubricants. Although output of these products bounced back by mid year, the recovery was not as rapid or as complete as in 1982 or 1985--also years of bad weather. Agriculture's performance was also hurt by poor weather. For example, cold spring temperatures delayed plantings and held down fruit and vegetable output, and heavy fall rains reduced the quality of the grain crop.

The introduction of new quality control strictures further diminished Soviet industrial growth, at times bringing production to a virtual standstill and diverting resources to the repair of rejected goods. Although information in the Soviet press indicates that quality control standards were relaxed somewhat after the first quarter, gospriyemka dampened production during the entire year, especially in the machine-building sector, which accounted for about two-thirds of the program's 1,500 participants.

Self-financing and other economic reforms granting increased operating autonomy to enterprise managers were also introduced in selected facilities and left their mark as well. Confused by contradictory directives from above, many plant officials floundered, struggling to find reliable suppliers and meet contract obligations. Gorbachev has also questioned the hitherto sacrosanct

principles of egalitarian wages and job security. A new pay system introduced on 1 January 1987 increased wage differentiation and encouraged enterprises to cut excess workers and managers. Thousands of layoffs have already occurred, and more are scheduled. Although the numbers involved are very small relative to the size of the work force, this unemployment marks a radical departure from previous policy. There have already been press reports of labor disturbances over lost bonuses and other changes caused by the reforms.

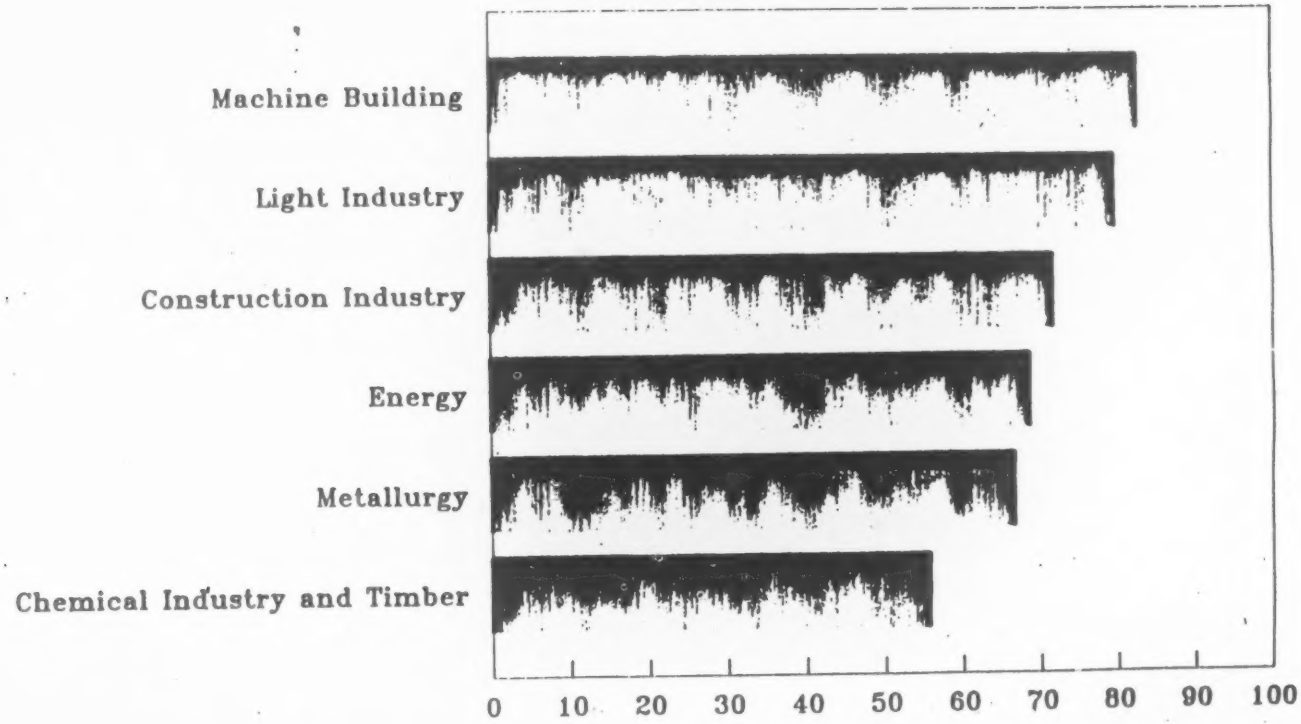
Meanwhile, despite rising investment over the past two years, the Soviets fell far short of their plan to bring new capacity on stream and replace obsolete equipment, mainly because of shortcomings in the construction industry and the inability of machine builders to fulfill their commitments to customers. The tautness in machinery supplies combined with other factors to leave a high percentage of projects uncompleted throughout the economy (see figure 3).

According to the Soviet press, losses in work time--caused by traditional problems of supply interruptions and idle equipment--increased substantially in 1987 over 1986. Compounding these problems, Moscow lost ground in its human factors campaign--the spur to improved economic performance in 1985-86. Buffeted by wage cuts and increased unpaid overtime because of gospriyemka, Soviet workers balked, at times resorting to work stoppages and reverting increasingly to loafing and drinking in the work place (see inset).

Finally, although the overall Soviet foreign trade balance improved, imports played a smaller role in boosting Gorbachev's program in 1987 than in 1986 and failed to make up for the shortfalls in domestic production. Despite higher grain imports, preliminary data indicate that hard currency purchases from the West dropped by 15-18 percent in real terms, as imports of machinery and equipment apparently plummeted. East European exports to the USSR also

Figure 3

USSR: Percent of Planned Capital Construction Projects Completed in 1987, by Economic Complex



Inset

Diminishing Returns to the Human Factor

Gorbachev's "human factor" initiatives--discipline, temperance, and improved work incentives--were intended to raise labor productivity for the first two or three years of the 1986-90 Five-Year Plan while industry retooled. Improved discipline helped boost productivity in 1986, but by June of 1987 Gorbachev was complaining that momentum had been lost. According to the General Secretary, "the incidence of drunkenness has increased again and idlers, parasites, and pilferers--people who live at the expense of others--again feel at liberty."

Backsliding on discipline was one reason for the increase in work-time losses cited in the 1987 plan fulfillment report. Other factors probably played a role as well. The problems that traditionally lead to the greatest losses of work time--supply interruptions, poor organization within enterprises, equipment shortages, and breakdowns--were exacerbated last year by the weather, by resulting failures in the transport system, and by Gorbachev's economic reforms. Expanded use of second and third shifts also added to work-time losses in many enterprises. Downtimes are frequent on late shifts because of a lack of support personnel and because workers often leave early. According to press reports, for example, many workers in Asiatic republics quit after being assigned to the evening shift.

Finally, the personnel and organizational problems associated with self-financing and wage reforms contributed to labor unrest in some enterprises. Leningradskaya Pravda reported that workers in a local furniture factory held a two-day strike in February of this year to protest a substantial drop in wages between December and January, when new reforms were put in place. The paper blamed the plant management's poor transition to self-financing for the disturbance. Along the same lines, Soviet press reported last November that a three-day strike at a major bus factory, also over loss of income.

grew only marginally, at least temporarily derailing Soviet plans to increase their contribution to Soviet economic development. Although Gorbachev has stated that he wants to base his economic program on domestically-produced machinery, we do not believe that a substantial short-run drop in machinery imports was part of his plan.

Trends in Resource Allocation

The effects of the sharp slowdown in growth were felt unevenly across the economy. In line with Gorbachev's emphasis on the modernization program, investment appears to have been given top priority. Major defense programs also appear to have continued on track, although Gorbachev has demanded that the armed forces use resources more efficiently and some cost-cutting measures were apparently instituted. The real loser in 1987 appeared to be the consumer, who--now three years into Gorbachev's economic program--has seen almost no increase in his standard of living.

Investment. Despite the economy's problems, new fixed investment growth appears to have come close to the plan target (see table 2). Nonetheless, problems surfaced with respect to the use and composition of investment. The goal for completing new projects was not achieved. New capacity brought on stream grew by only 5 percent compared with a goal of 12 percent--the second year of substantial shortfalls in delivery of the planned capacities needed to support modernization. The Soviets also had little success in their efforts to increase the efficiency of investment by directing more of it into new machinery and equipment and less into new plant and structures. According to Soviet data, the share of machinery and equipment in total new investment in industry did not rise in 1986, and given the strains in the civilian machinery sector, the share probably grew little, if at all, last year.

Table 2

USSR: Selected Indicators of Capital Formation

(average annual percentage rates of growth)

	1976-80	1981-85	1986	1987 Preliminary
New fixed capital investment	3.3	3.5	8.3	4.7
State productive capital investment (1) in the retooling and reconstruction of existing enterprises	NA	7.1	25.4	NA
Commissionings of new capacity	4.4	3.0	5.9	5.0

---

(1) State capital investment is total investment less investment by cooperatives, kolkhozes, and individuals (in housing). State productive capital investment further excludes investment by the government for services and housing.

Defense. Defense spending also appears to have increased in 1987, although estimating the precise rate is subject to great uncertainty because of difficulties in assessing recent expenditures on research and development and operations and maintenance. Although changes in procurement spending are also difficult to detect immediately, the available evidence suggests that major weapon programs proceeded on track. Our preliminary estimate is that procurement grew by roughly 3 percent in 1987 (measured in constant 1982 prices), consistent with the growth noted in the preceding few years. Growth was driven primarily by procurement of offensive and defensive strategic systems. Among weapons categories, the largest jump in outlays was for ship and submarine procurement, principally because of continuing expenditures on the Typhoon and Delta IV SSBNs and the Sierra-class and Akula-class SSNs. Outlays for the IL-76 CANDID and the strategic SA-10 missile system also helped to push up spending. These systems had already begun to be deployed or were in the final stages of development when Gorbachev became General Secretary.

While apparently leaving major procurement programs alone, Gorbachev was increasingly vocal on the need for military support of the modernization campaign. Early in 1987 he called defense a "great burden" on the economy and indicated that, in the future, military requirements would have to be based on the principle of "reasonable sufficiency," a principle which, while not yet authoritatively defined, has been construed by some Soviet commentators as requiring a "least cost" response (see inset). While accepting the principle of "reasonable sufficiency," the military services' only response observed so far has been to trim some operations and maintenance costs through an emphasis on discipline and greater efficiency. The navy, for example, probably in response to both economic and operational requirements, has reduced its out-of-area operations, while recent articles in the military press indicate that some

Inset

Reasonable Sufficiency

In seeking to balance the needs of the civilian and military sectors of the economy, Gorbachev has claimed that the Soviet Union will not deploy military forces beyond what is required for a "reasonable, sufficient defense." The Warsaw Pact Political Consultative Committee endorsed this concept in the declaration on military doctrine issued in May 1987.

The Soviets, however, have not provided a detailed explanation of how they define reasonable sufficiency, and its implications for Soviet force posture are probably still under discussion. Senior party secretary Aleksandr Yakovlev, writing in Kommunist in May 1987, called on social scientists to work with military specialists to give substance to the concept.

Soviet commentators have clearly differed among themselves as to the meaning of sufficiency. Most civilian and even some military specialists have argued that the USSR need not, and should not, match every weapon program undertaken by a potential adversary, emphasizing the detrimental effect of the arms race on the economy. A few have even advocated unilateral force reductions. Other commentators, many of them military officers, have interpreted "defense sufficiency" in more traditional terms. They contend that weapon reductions should be mutual and that an increase in Western military power must be offset with a proportional increase in Soviet military capability. Defense Minister Yazov, for example, wrote in a July 1987 Pravda article that "the limits of sufficiency are set not by us, but by the actions of the United States and NATO."

Yazov and other military writers have also taken the view that defense sufficiency includes an offensive capability. For example, in his book Guarding Socialism and Peace, Yazov noted:

> "Soviet doctrine considers defense to be the principal form of action for the repulsion of aggression.---But, it is impossible to destroy the aggressor with only a defense. Therefore, after the invasion is repulsed, troops and forces of the fleet must be capable of conducting decisive offensive operations."

ground force units have been given specific goals for reducing the use of fuel and other resources. In addition, longstanding Soviet efforts to extend the service lives of various weapons apparently have been given additional emphasis.

Consumption. Although Gorbachev is apparently counting on increased worker contribution and dedication to help achieve his ambitious modernization targets, the consumer was again shortchanged in 1987. Per-capita consumption rose only slightly last year, by 0.7 percent; sales of a number of key consumer goods--including vegetables, clothing and textiles, footwear, and alcohol--declined. Meanwhile, because of the unavailability of the desired goods, unsatisfied consumer demand continued to accumulate as wages increased by 2.6 percent. Other evidence of excess demand included press references to higher collective farm market prices and a ten-percent increase in savings bank deposits.

The Soviet population apparently supports perestroyka in principle, but most workers, according to one Soviet survey, do not believe they have benefited from it. The impact of many of the reforms initiated in 1987 has just begun to be felt by the consumer and could dampen morale even further in 1988:

- --Gospriyemka has resulted in lost bonuses and unpaid overtime for corrective work and prompted work stoppages in protest.
- --Wage reform in many cases will lead to lower wages, demotions, and some lost jobs.
- --Ministry staff reductions are eliminating thousands of jobs and disrupting work, as those still employed worry about their future.
- --Self-financing, which links wages and output, could reduce wages if output falls, even if the reasons--for example, interruptions in supply--are beyond the workers' control.

Where Gorbachev's Program Stands

Last year was to be a year of transition for Gorbachev's economic program, one in which his policies were to begin to provide the basis for the Soviet economy's transition to a self-sustaining path of higher growth. Gorbachev has prepared a blueprint for the modernization of the Soviet industrial base and reform of the economic system, and the implementation of his program has begun. Three years into Gorbachev's rule, both major elements of his economic program have displayed significant strengths and weaknesses. The question--which remains to be answered--is whether the slow growth and disruptions that occurred in 1987 were transitory phenomena or harbingers of even more widespread problems.

Industrial Modernization: The Record After Three Years

The progress of the industrial modernization program is best reflected in civilian machine building, the sector that Gorbachev has described as crucial to the success of his plan. Overall, the scope of Gorbachev's program for restructuring the machine-building complex is impressive. All operations within the sector--from research and production work at institutes and plants to high-level planning and administration in Moscow--have been engaged, and the policies implemented over the past three years have addressed the most significant issues at each level. But the pace and inconsistency of Gorbachev's policies have thrown machine building and all of industry into a state of turmoil.

The high targets that machine builders have been tasked to achieve in the 1986-90 period are overwhelming in and of themselves. As the 1987 results showed, moreover, major elements of Gorbachev's program for the machine-building sector are intrinsically contradictory because the sector is being forced to do everything at once: retool, increase quality, conserve resources,

change the product mix, and accelerate production. Thus, it is not surprising that machine builders could not meet their goals for the first two years of the five-year plan and that the modernization program is behind schedule:

-- In large part because of disruptions resulting from retooling and quality control, civilian machine builders only managed to match 1986 output levels. Defense machine-building ministries, less affected by these disruptions, probably grew faster than their civilian ministry counterparts.

-- Although civilian machine builders met--and at times exceeded--their targets for introducing new products, press reports indicate that the new equipment is not as advanced or productive as originally envisioned--in part because enterprises do not have the time to upgrade their production technology without risking a fall in production.

-- Civilian machine builders were able to increase investment substantially, but pressures to keep production levels up and shortages of equipment have prevented them from meeting plan targets for retooling the industry.

When production dropped sharply at the beginning of 1987 and then recovered only slowly, quality standards were apparently relaxed for two to six months at many of the plants under gospriyemka, and the constraints of self-financing were deferred, according to the Soviet press. As months passed without a rebound, however, Soviet leaders unleashed a barrage of criticism at the machine-building sector.

Nonetheless, the leadership shows no sign of backing down on the modernization program. Gorbachev has stressed that, "No retreat is permissible from the program.... There will be no turning back." His strategy

appears to be one of maintaining forward momentum, while relieving pressure so as not to push machine builders too hard. In line with these considerations, Moscow appears to be changing its tactics for dealing with the sector. Realizing that continued, unrelenting criticism would only make matters worse, Soviet leaders have become more upbeat. For example, in his speech before a group of media chiefs this January, Gorbachev praised machine builders for the rate at which they were renewing products and noted that "qualitative changes" are also being made in science and technology.

Economic Reform: A Long Way To Go

Gorbachev has also pledged not to retreat from the major objectives of his economic reform program--the other key element in his drive to bring about the long-term, self-sustaining improvements that he is ultimately seeking for the Soviet economy. Indeed, 1987 witnessed a major expansion of his reform agenda.

Before the June 1987 Central Committee plenum, it was not even clear that Gorbachev had a unified blueprint for economic reform. He had started out by extending Andropov's and Chernenko's reforms in the industrial sector on planning and finance, and introducing self-financing, wage reform, and planning reform on a small scale. In addition, he had established a commission in January 1986 to develop a program of reform legislation, and had sanctioned an unprecedentedly wide-ranging debate on economic reform. This discussion reached a crescendo just before the Central Committee plenum in June 1987, which was called to ratify the new program.

The June plenum, however, approved guidelines for a "new economic mechanism," which is to be "almost fully" implemented by the start of the 13th Five-Year Plan in 1991. As of 1 January 1988, reforms were introduced or expanded to affect a large portion of the economy (see inset). These include self-financing, new planning practices, wholesale trade, changes in the banking

Timetable for Soviet Economic Reforms

Reform	Major Purpose	1988 Goals	Final Objective
Self-financing	Enterprises will bear full economic responsibility for the results of their activity. Investment will be financed less through budget allocations and more through bank credits.	60 percent of all industrial production and 40 percent of all enterprises; an estimated 60 percent of agricultural production; 50 percent of scientific organizations; 100 percent of transportation.	Whole economy by end of 1990.
Wages	Entire wage and salary structure in the production sector will be overhauled to tie monetary rewards more closely to performance. Salary increases, however, will depend upon enterprises' ability to finance them.	60 to 70 percent of work force.	All industrial sectors by end of 1990.
Planning	Enterprises will produce a portion of their output in compliance with mandatory state orders and will be given greater latitude in determining the remainder. The role of Gosplan and other state planning organizations would be curtailed sharply.	All enterprises and associations. However, in 1988, state orders make up 80 percent of industrial production, including 90 percent in the fuel ministries and 60 percent in the 8 civilian machine-building ministries.	State orders will be reduced to 60 percent of total output in 1989, 50 percent in 1990, 30-40 percent in 1991, "eventually" dropping to 20-25 percent.
Supply (wholesale trade)	Only "scarce" producer goods will continue to be rationed by the state. Other supplies will be distributed through a wholesale trade system that will allow free purchase and sale under direct contracts between providers and users.	Less than 4 percent of total industrial production; 15 to 20 percent of sales through state supply networks.	Wholesale trade reform to cover 30 percent of sales through state supply networks by 1989, 60 percent by 1990 and 80 percent (2/3 of total sales) by 1992.
Banking	Decentralizes bank decisionmaking somewhat and elevates the role of economic criteria in extending credit.	All banks. A reorganization is being undertaken, but decentralization of bank lending policies will be limited and gradual.	No date given.
Wholesale prices	Will be revised to better reflect resource scarcity and customer demands.	None; to begin in 1990.	Industry, transportation, communications by 1 January 1990; construction and agriculture, by 1 January 1991.

Retail prices	Will be made more flexible and more responsive to supply and demand, probably resulting in higher prices for foods, rent, and consumer services.	None; to begin only after full public discussion.	No date given.
Foreign trade	Allows selected enterprises to engage directly in foreign trade and keep portion of foreign currency earned.	26 percent of all imports; 14 percent of all exports.	No date given.
Quality control	Establishes independent quality-control inspectors in civilian enterprises.	732 more enterprises; for first time includes food processing and construction sectors. Roughly 80 percent of machine-building output and more than 30 percent of all industrial production will be covered.	No further expansion announced.
Organizational changes	Seeks to streamline and rationalize economic bureaucracy.	All central ministries, republic central committees, and republic Council of Ministers.	By end of 1988.

and credit system, wage reforms, new foreign trade procedures, and reorganization of the production and foreign trade ministries. With their adoption, Gorbachev has replaced his predecessors' piecemeal approach to reform with a much more comprehensive program. If fully implemented, this reform package would greatly change the USSR's economic structure. The role of Gosplan and other national planning organizations would be limited to long-range, national planning, while the day-to-day operation of the economy would be largely handled at the enterprise and local levels.

Nonetheless, while comprehensive, Gorbachev's reform program is not a well integrated package, and returns from its implementation are likely to be deferred--both because of loopholes in the reform legislation itself and because crucial elements of the reform package have not been worked out. Indeed, Minister of Finance Gostev said that "the transition to the new conditions of economic management is being made on the march..." As a result, many of the reforms are not scheduled for full implementation until the beginning of the next five-year period. In particular, price reform--essential for better decisionmaking at both the national and enterprise levels--will not be completed until 1991, after the five-year planning process is finished. Almost as serious is the fact that the wholesale trade reform will not be fully in place until 1992. Without free trade in supplies, enterprise managers will find it hard to spend the profits that they are allowed to keep under self-financing. As a result, more reform-related disruptions can be expected.

Near-Term Outlook for Gorbachev's Program

How the Soviets perceive the success of Gorbachev's economic program will depend greatly upon which of its competing objectives they consider to be more important--long-term modernization and reform or short-term economic growth. Many of the modernization and reform initiatives impinge directly on short-run

growth. Gorbachev has indicated that two or three years will be required before the positive effects of these initiatives are felt. If growth slows in the near term, however, fewer resources will be available to expand the modernization effort or to satisfy key constituencies such as consumers and the military, who are undoubtedly troubled by the disruptions that the reforms may entail.

The short-term outlook for growth certainly is not good. Meeting the targets established for the 1988 plan, for example, would require Soviet GNP growth of nearly 8 percent. This seems clearly beyond reach (see inset). Given the disruptions that Gorbachev's program are causing and are likely to continue causing for the next few years, we project average annual growth of 2 percent or less for the rest of this five-year plan, although considerable year-to-year fluctuations are possible. Indeed, coming off of 1987's poor performance, 1988 growth could rebound substantially, especially if the weather cooperates. Alternatively, growth could even be negative in some years if disruptions worsen or are accompanied by harvest failures or other major problems.

Possible Adjustments

Because Gorbachev's economic program is behind schedule and short-term growth prospects are not bright, we believe that as the Soviets begin to focus on the next five-year plan, they will be looking for possible adjustments during the 1988-90 period that will get the program back on track. Specifically, the leadership may:

-- Look for additional resources from defense, other sectors of the economy, or abroad.

-- Decide to adjust its approach to economic reform and modernization.

Inset

The 1988 Plan: The Pressure Builds

The Soviet economic plan for 1988 is, for the most part, in line with the 12th Five-Year Plan goals. Output growth targets match those in the five-year plan; the machine building sector is assigned continued priority; and calls for increased labor productivity, resource conservation, and improved management are repeated. The 1988 plan appears to take little, if any, account of either the economy's shortfalls in 1987 or the scheduled implementation of comprehensive economic reforms this year.

The 1988 production targets are totally unrealistic mainly because they are expressed with respect to 1987 plans, which were substantially underfulfilled. For example, industrial output would have to grow by 9 percent this year to meet the plan. Because it is unrealistic, the 1988 plan will probably create imbalances and create still more pressure on Soviet industry and other sectors of the economy to turn out production at all costs, even as enterprises try to cope with the new reforms and an expansion of the quality control system.

In terms of resource allocation, the 1988 plan suggests a higher priority for the consumer. Investment resources allocated to housing and consumer services reportedly have been raised substantially over the distribution originally called for in the 1986-90 plan. The 1988 plan calls for overall investment growth of 5.5 percent, compared with 4.7 percent in 1987 and 8.3 percent in 1986. The 1988 target looks low, however, given the many demands in the economy for investment in modernization, in energy, and now in consumer-related sectors, although it may be in line with the original five-year plan.

USSR: Key 1988 Economic Plan Goals

Annual Growth (percent)

	1988 Plan Compared with 1987 Plan[a]	1988 Plan Compared with 1987 Performance[b]
GNP	4.3	8
Agriculture	3.4	6
Industry	4.5	9
Machinery[c]	7.0	20

[a] Official plan goals based on gross value of output.

[b] Based on CIA estimates of production in 1987.

[c] Civilian and defense machinery.

Finding More Resources

The leadership's ability to deal with these expected shortfalls in production will be essential to the success of Gorbachev's modernization efforts. At a minimum, we believe that if the leadership is to continue to pursue a high investment strategy--critical if the USSR intends to renew its capital stock--then it will have to tap resources from one or all of three areas outside the civilian machinery sector:

-- Defense.

-- Other sectors of the economy.

-- External sources in Eastern Europe or the West.

Tapping Defense. Defense currently claims 15-17 percent of GNP--including an especially large share of the output of the critical machine-building sector and large shares of the highest quality materials. Thus, it is a prime candidate to support Gorbachev's modernization program. Indeed, defense industry already produces investment goods--ranging from computers to tractors and tramcars--both for its own use and for shipment to civilian customers. In addition, the sector manufactures a large portion of such domestically-produced consumer durables as refrigerators, radios, and TVs.

Until recently, leadership statements for defense industrial support to the civil sector echoed similar calls in the early 1970s and 1980s, and, as in the past, the leadership has complained that the defense industries have largely ignored these appeals. During his opening address at the Central Committee plenum in June, for example, Gorbachev attacked three defense ministries for having a "formal attitude to consumer goods production as something secondary." Additional reporting indicates that the defense industry's contribution has fallen far short of the Soviet leadership's expectations:

-- Since the beginning of 1986, defense industries have been criticized on at least 30 separate occasions in industrial performance reports for shortfalls in production of consumer goods and failures to improve quality.

-- The Central Committee dismissed the director of a defense industrial enterprise manufacturing television sets and issued "strict warnings" to several defense industry ministers for their failure to improve the quality of TVs and radios, according to Soviet news reports in June 1986.

Faced with this poor performance, the leadership recently has stepped up its pressure on the defense industry to help retool light industry and food processing. During last October's Central Committee plenum on the food-processing industry, Premier Ryzhkov blasted the state of food processing, reaffirmed the leadership's commitment to retooling the sector, and then presented the defense industrial ministries with a specific plan for their involvement in the program. He stated that the defense industries, along with the other machine-building ministries, would be required to increase dramatically--by "fourfold to ninefold by 1995"--their equipment deliveries to the food-processing sector. He added that the Bureau for Machine Building, the State Agro-Industrial Committee (Gosagroprom), and an unidentified state commission--which we believe to be the Military-Industrial Commission (VPK)--had been tasked to submit within 90 days a specific program outlining how their ministries would meet these production targets. At an obkom plenum on 11 November, party Agriculture Secretary Nikonov repeated Ryzhkov's statements on retooling food processing, and he too cited the "fourfold to ninefold" increase in the contribution from the defense industries.

Even stronger evidence of a larger role for the defense industries came

with a February 1988 press announcement that the civilian ministry responsible for retooling the light and food industries--the Ministry of Machine Building for Light and Food Industry and Household Appliances--would be dissolved and subsequent press reports indicating that responsibility for some of its 260 enterprises was being transferred to defense industrial ministries.

Despite these changes, defense industrial participation in the civil modernization program is unlikely to affect weapons production capabilities greatly, at least for the next few years. As a result of the large-scale modernization in the defense industries in the 1970s, the sector has in place most of the equipment it needs to produce weapon systems scheduled for deployment through the early 1990s. Therefore, any investment forgone in weapons plants to supply tooling for civilian production could delay the introduction of future weapons programs, but would not be likely to slow current output.

Nonetheless, Soviet defense industry is not without its own pressing needs. In the near future, if not this year, it must begin serious commitments to support the next generations of Soviet weapons (see inset). Any move to reallocate resources from defense industry, however--even if it affects only future weapons production--would be controversial and could spark opposition from more conservative elements of the leadership. Thus, although Gorbachev probably will look to defense for resources to bolster his industrial modernization efforts, we believe that he will move cautiously. National security is a particularly sensitive area for the leadership, and Gorbachev probably would be reluctant to leave himself open to charges of weakening Soviet defenses by pushing reforms or resource shifts that many in the military leadership oppose.

One way to shift resources from the defense sector and head off criticism

Inset

USSR: Selected Future Major Weapons Programs

Strategic offensive systems: New solid-and liquid-propellant SLBMs and a new SSBN likely by the late 1990s; and a replacement for the SS-18 follow-on ICBM and a new long-range cruise missile in the next century.

Strategic defense systems: New air defense ground laser, long-range interceptor, and long-range air-to-air missile probably entering series production by the late 1990s; and a new laser ASAT weapon, a variety of surface-to-air missiles, and a new AWACS aircraft in the next century.

General purpose ground systems: Series production of a new antitank missile and a new generation attack helicopter by the late 1990s; and new ground forces vehicles in the next century.

General purpose air systems: New fighters and other aircraft and tactical missiles in series production by the late 1990s; and a new transport and a new airborne laser in the next century.

General purpose naval systems: An improved cruiser and submarine, new helicopter, and new missiles in series production by the late 1990s; and a new fighter and new ASW equipment in the next century.

Space systems: Space-based weapons by the mid-1990s; a variety of command, control, communications, and intelligence satellites by the late 1990s, and a space plane in the next century.

would be to reach arms control accords that would slow the pace of US weapons programs, especially SDI. Indeed, this is probably one of the main reasons the USSR is interested in a START agreement. Even more important than the direct savings from an agreement--which could be significant--Gorbachev probably sees the larger process of arms control as his principal means of achieving more stable East-West relations and dampening both external and internal pressure to spend more on defense--at least until he can reap the productivity gains he hopes to obtain from his industrial modernization program (see inset).

Squeezing Other Sectors. Gorbachev will also look to other sectors of the economy to find the investment resources needed for his modernization program. But the chances for any real savings appear slim. Investment demands are rising across the economy, while the leadership has apparently ruled out holding down consumption any longer for fear of its impact on productivity.

As part of restructuring, Gorbachev has said that he would like to reduce investment in both the agriculture and energy sectors, which together absorb about half of total Soviet investment. But both sectors will need more investment over the next few years. Although agriculture has enjoyed a high priority since the mid-1960s--the agro-industrial complex takes about one-third of total investment--this investment has not boosted output appreciably since 1970 (see figure 4). Crops are still lost due to inadequate transport and storage, grain and other food imports remain high, and rural housing and associated infrastructure are poor. Although this sector might well take a declining share of total investment, absolute reductions will be difficult to achieve.

Similarly, in the energy complex--which takes about 20 percent of investment--returns to investment in fuels have been falling over the past decade, and this trend shows no signs of reversing itself:

Inset

Economic Gains From Arms Control

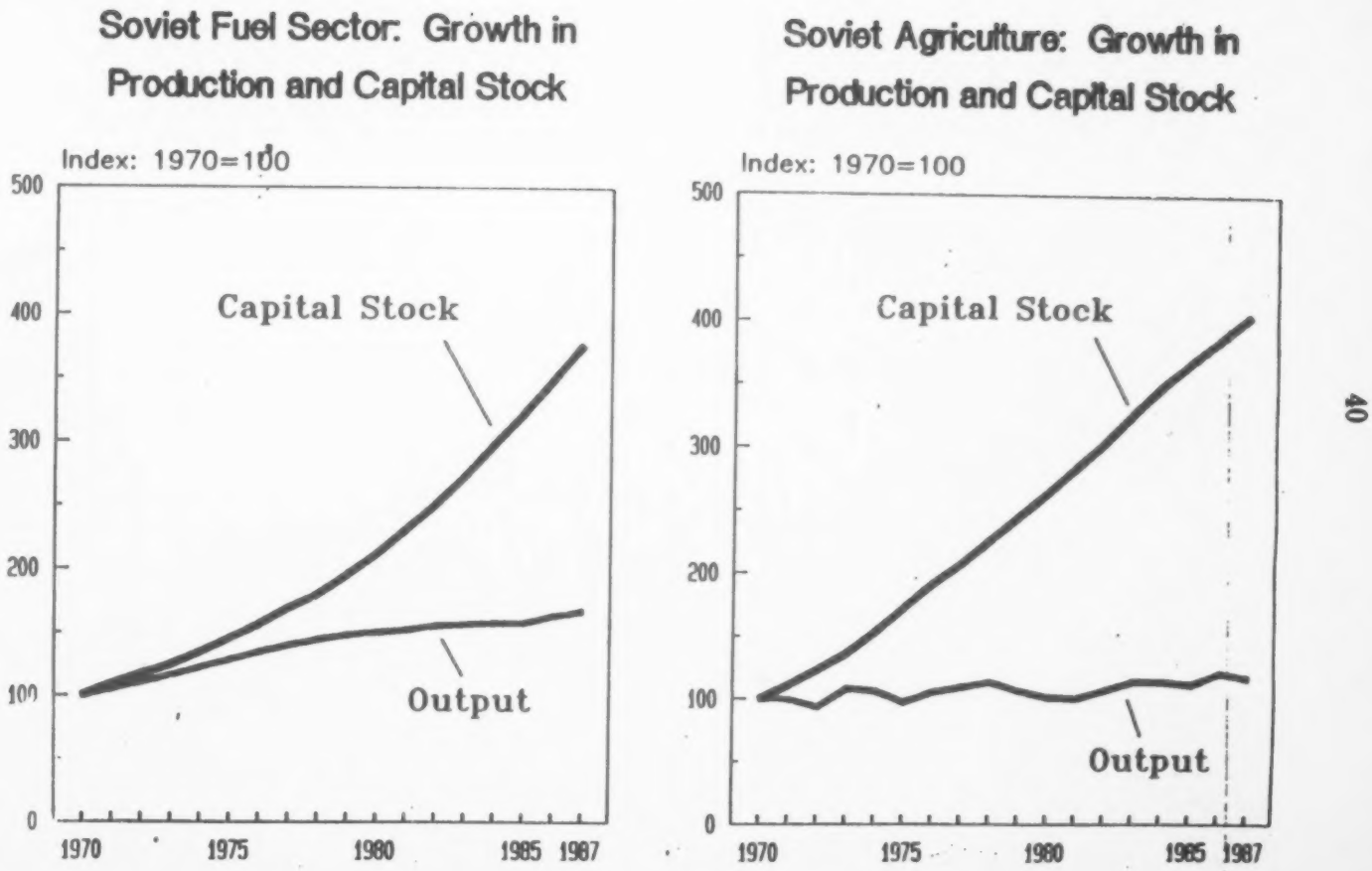
Our analysis indicates that--although arms control need not result in the transfer of resources from military to civilian programs--the Soviets could reap some economic benefits from arms control, given the provisions of the recently signed INF treaty and the type of reductions envisioned from a START accord. The greatest potential economic benefit to the Soviets from an arms control agreement would be the avoidance of substantial new military expenditures. By avoiding the deployment of follow-ons to, and modernization of, existing MRBMs and IRBMs, the INF agreement could perhaps save the Soviets on the order of 1-2 billion rubles annually during the 1990s, as well as release tens of thousands of troops and the workers in the plants producing INF weapons for other duties. Near-term savings, however, will be reduced by the costs associated with dismantling and destroying INF systems, which the Soviets have claimed could be substantial.

The direct savings from a deep-reductions START agreement is much less certain. The actual amount would depend heavily upon the rate at which the Soviets would modernize their forces, both in the absence of an agreement and under such an accord. Under the Soviet START proposal, for example, total savings might be less than those under the INF treaty if the USSR decided to reach the warhead limit by scrapping most existing systems and replacing them with new, more costly ones. Conversely, should the Soviets opt to reach the warhead limit by curtailing future programs, slowing the rate of modernization, and keeping existing systems longer, we estimate that by the year 2000 cumulative savings from a combined START and INF agreement could exceed 50 billion rubles, and make substantial numbers of soldiers and industrial workers available for other employment.

We do not know how the Soviets would choose to reallocate any resources saved from arms control. Part of the savings might be used to strengthen strategic defense, conventional forces, or research and development efforts. Given the priority Gorbachev has placed on his industrial modernization program, however, he probably would choose to allocate at least some of the resources to the civilian economy. If the Soviets were to transfer all the resources saved, we estimate the non-defense component of GNP could be as much as 2 percent higher than it otherwise would be by the turn of the century. Moreover, because strategic offensive forces claim a large share of the best electronics, high-quality machine tools, and scientific resources--all of which are vitally important to Gorbachev's modernization program--even small reductions in these forces could help alleviate bottlenecks in these areas.

Beyond some long-term economic benefits from arms control, Gorbachev and the leadership probably see arms control as part of a larger process to ease East-West tensions, and they probably calculate that arms control would lead to constraints on Western force modernization. If Gorbachev can reach strategic arms control agreements--while at the same time reaching some sort of accommodation with the US on other contentious political issues--then he will be in a much better position to push his modernization program at home and to make whatever adjustments he feels are needed in the defense budget. Improved US-Soviet political-military relations would also make it easier for the USSR to expand commercial ties with the West.

Figure 4


Soviet Fuel Sector: Growth in Production and Capital Stock
Index: 1970=100
500
400
300
200
100
0
Capital Stock
Output
1970
1975
1980
1985
1987
Soviet Agriculture: Growth in Production and Capital Stock
Index: 1970=100
500
400
300
200
100
0
Capital Stock
Output
1970
1975
1980
1985
1987

-- It is becoming more and more costly to maintain oil production, as new wells are deeper, less productive, and are located in more remote and smaller fields compared with the past.

-- The new oil and gas fields that are being developed offshore in the arctic and onshore near the Caspian Sea will require huge investment outlays.

-- Shifting domestic energy consumption away from oil and towards gas and coal will require the construction of new and costly pipelines and other refining, transportation, and storage facilities.

In the past, Soviet leaders, including Gorbachev, have traditionally been willing to sacrifice consumption growth for investment. Early in 1987, Gorbachev made this policy explicit, indicating that the consumer must tighten his belt for a few years. Unlike in the past, however, the work force is being asked to improve its productivity, agree to major changes in the "social contract," and work on second and third shifts. The leadership, moreover, has expressed increasing concern that the failure to increase the output and quality of consumer goods has hurt morale and dampened the enthusiasm for Gorbachev's program. Second Secretary Ligachev said last May, for example, that consumer shortages had become a "brake on the economy." Gorbachev, speaking at an October conference on the food processing industry, said that improving "the people's everyday life" is more important even than modernization.

The 1988 plan reflects a new emphasis on the consumer:

-- Investment resources allocated to the so-called non-productive sphere (principally housing, trade, services and education) have been increased by 18 percent over the level originally called for in the 1986-90 plan.

-- Targets for output of consumer-oriented building materials have been increased.

-- Goals for the production of food, clothing, textiles, and consumer services have also been raised. The share of consumer-related goods as a share of industrial production is to rise, reversing the downward trend of recent years.

Looking Abroad. Besides seeking help from defense industry and other sectors of the economy for the modernization drive, the leadership will also look to Eastern Europe and the West for additional support. Although some rise in imports is possible, neither source is likely to be able to compensate for domestic production shortfalls.

Eastern Europe is already a major supplier of machinery. Currently, Eastern Europe provides over two-thirds of Soviet equipment imports and is the largest foreign supplier of machine tools, computers, and electronics. Although additions to capacity over the next few years should allow Eastern Europe to increase its exports of some types of machinery to the USSR--especially machine tools from East Germany--there is a large requirement for advanced machinery for domestic investment in most Eastern European countries, and their leaders would resist sacrificing their own development programs. In addition to having their own economic problems, many Eastern European countries are facing a period of political transition--a poor time for the Soviets to push for greater austerity. Moreover, because of improving terms of trade, Eastern Europe finds itself in a better position than in the past to oppose any demands from Moscow for additional support. The value of Soviet energy deliveries to Eastern Europe--which comprise the bulk of exports to the region--fell by 7 percent in 1987 as a result of lower oil prices.

In addition, the Soviets are aware of the limits on what they can expect from Eastern Europe. Gorbachev has made economic modernization not only the goal for the USSR, but for the Warsaw Pact as a whole. In so doing, he acknowledges the

trade-off between Eastern Europe producing more low-quality machinery and progress towards higher quality products: higher output in the short run comes at the expense of higher quality in the long run. To this end, the Soviets have emphasized better quality exports in recent years and continue to do so.

In contrast to the limited prospects for increasing imports from Eastern Europe, Moscow would probably find willing suppliers in the West. Western suppliers have been geared up since the start of the current five-year plan to increase sales to the USSR, only to find their expectations dashed, in part by Soviet cutbacks in purchases from abroad in response to lower oil earnings, but also by restrained Soviet buying in general, based on leadership expectations that modernization would be based on domestic production. The possibility that the Soviets would look to boost imports as a result of the slow pace of modernization in 1987, however, coupled with Soviet efforts to revamp its foreign trade apparatus and establish joint ventures over the past year, has rekindled Western interests (see inset). Moscow may even be able to extract some trade and financial concessions from Western governments eager to give their firms the upper hand in tapping Soviet domestic markets. Despite the sizable climb in the dollar value of the hard currency debt in recent years--due as much to the continuing rise of West European currencies and the yen relative to the dollar as to new borrowing--the USSR is still regarded as an excellent credit risk by most Western bankers.

At present, with a low debt-service ratio of about 25 percent, Moscow is in a fairly good position to expand economic ties with the West. But sizable import growth over several years would increase Soviet dependencies, both on particular products and on Western financing needed to make the purchases. Nonetheless, even though Gorbachev has stressed the need to modernize from within and is likely to have set his own limits on Soviet-Western economic relations, the attractiveness

Inset

Update on Soviet Joint Ventures With the West

The Soviet leadership has pushed aggressively during the past 12-18 months to establish joint ventures with Western firms. We believe that Moscow sees such arrangements as better vehicles than current trade and economic relationships for acquiring and assimilating Western technology, managerial expertise, and marketing skills. As part of Gorbachev's modernization drive, joint ventures are intended to upgrade Soviet production processes and thus spur exports of manufactured goods, reducing Moscow's reliance on energy and other raw materials as its principal foreign exchange earners. Soviet plans call for 85-90 percent of the "most important" machinery to be up to "world-technical levels" by 1990.

Despite the initial interest shown by Western firms, progress has been slow. Only 20 agreements out of 300 proposals have been concluded since the legislation took effect at the beginning of 1987. The largest stumbling block remains the inherent conflict between Soviet and Western commercial objectives. Western businessmen are eager to tap a potentially lucrative Soviet domestic market, but have little interest in helping the USSR become a world-class exporter of manufactured goods to compete with their own foreign sales. Soviet inexperience with many Western business concepts, such as management control and profit repatriation, are further impeding progress. Moscow has shown some flexibility in negotiations and has modified the regulations to try to address some Western concerns.

Only a small number of joint ventures are likely to be in operation within the next year or two, and they will probably have little impact on Soviet hard currency earnings or the quality of domestic production until the 1990s. Most of the deals concluded, or those close to signing, appear to be relatively small endeavors that involve simple production processes, low-level technology, and little foreign capital. A few large projects are under negotiation, but even if agreements are reached sometime in 1988, it will be years before these projects begin full operation.

of Western assistance to ease the transition pains of some key sectors may increase markedly if this year's economic performance repeats last year's.

Over the longer term Moscow would like to finance any increase in imports through increased export earnings and, to this end, is exploring the possibility of expanding ties to a number of international economic institutions. While a major impetus for joining these organizations is political, membership also would confer some limited economic benefits. For example, the Soviets apparently believe that membership in GATT will expand their general knowledge of world trade and also make Soviet exports eligible for reduced tariffs that accompany GATT membership. In contrast, the Soviets have shown far less interest in joining the IMF. Membership would require greater economic information than the Soviets have previously been willing to share, the Soviets would be required to pay a sizable subscription fee upon joining, and they would probably realize few economic benefits from participation.

Slowing Economic Reform

How fast Gorbachev will push the pace of economic reform is uncertain. In the face of continued low economic growth, shortages of critical goods, and discontent on the part of workers and nationalities, the tenuous balance in the leadership could easily shift in favor of more conservative policies. Indeed, in a speech to the media on reform this January, Gorbachev signaled a willingness to retreat "if it turns out we made an error."

If retrenchment occurs, we believe that the more orthodox elements of Gorbachev's program to improve the system would probably survive, but that the drive to make the economy more market-oriented and decentralized would be deemphasized. The emphasis would be on increased discipline and organizational reform.

-- The discipline campaign would include renewed emphasis on the anti-alcohol program. We might also see continued efforts to increase differentiation in wages between workers who perform well and those who do not.

-- Organizational reform would continue to focus on some cutback in the bloated central bureaucracy and a rationalization of the structure in an attempt to join related economic ministries and central organs.

The reforms most likely to be weakened are those that would result in a major decentralization of economic decision making. The proposed reduction in obligatory plan targets and increased authority by the enterprises in the allocation of resources would probably be the first to be affected, as would plans to decentralize wholesale price formation. Reforms intended to increase authority at the farm level would probably suffer the same fate, although the emphasis on the collective contract--a way to increase discipline--would probably continue. Ideological opposition and bureaucratic red tape would probably prevent any significant expansion of the private and cooperative sector.

Measuring Progress: Signs To Look For

In charting the progress of Gorbachev's economic program, the problem for Western observers and for the Soviets themselves will be to understand whether the policy shifts and reforms being carried out will be effective and to identify indicators that can measure progress in areas such as quality and technology, which are only indirectly measured in output statistics. Another key question for Western observers will be how to gauge the commitment of Gorbachev and others on the Politburo to his policies. While it is doubtful that Gorbachev (or any successor) could ever fully turn back the clock and publicly renounce perestroyka, how fast and how hard Gorbachev's vision will be pushed is still a very open question.

The Upcoming CPSU Party Conference

This year's most important test of Gorbachev's political strength and of the momentum of his reform agenda will probably come at the 19th All-Union Party Conference, to be convened on 28 June 1988. Gorbachev has invested a great deal of political capital in the conference, which will be the first meeting of its kind since 1941. He evidently hopes to circumvent the current Central Committee and use the conference to ratify some of the more controversial elements of his reform program and strengthen his grip on party organizations. Reflecting the controversial nature of the conference, Gorbachev first proposed it at the January 1987 Central Committee plenum, but he did not receive formal Central Committee backing for the idea until last June's plenum.

In addition to focusing on personnel issues, Gorbachev will almost certainly use the conference to conduct an across-the-board assessment of domestic policy and to articulate a vision for the future. Moscow has already indicated that the agenda will include a review of progress in implementing the current five-year plan, a topic that will inevitably involve a discussion of the impact of current reforms on the ability to meet plan targets. Gorbachev might also choose to unveil the general outline of the 1991-2005 Fifteen-Year Plan. If so, it could provide clues concerning the adjustments intended in economic policy in the 1990s.

The conference will also afford Gorbachev an important opportunity to consolidate his power. It apparently will be empowered to make changes in the Central Committee, perhaps replacing 25 percent of its members, where Gorbachev's support has been weaker than in the Politburo and Secretariat. The composition of the Central Committee is particularly important for the future of economic reform, because officials who have considerable input in the design of economic policy and are largely responsible for implementing it--regional party

leaders, government ministers, and economic managers--are heavily represented there. If Gorbachev fails to increase the ranks of his supporters significantly, his ability to push beyond the limits of current reforms will probably be severely hampered.

Shifts In Economic Reform Policy

If the leadership that emerges from the conference decides to take the long view--i.e., is willing to wait for economic gains in the 1990s and realizes that short-run disruptions are a necessary part of the economic reform process--we would expect to see some indicators that the momentum of reform is being maintained. Some that would probably be evident in leadership statements and press articles include:

-- Less emphasis on growth in general and on the fulfillment of 1986-90 plan targets in particular. Recent Soviet statements have begun to make this point (see inset).

-- Strong united commitment by the leadership not only to the general concept of economic restructuring but also to individual elements of the reform program, such as price reform, that are controversial but essential to a comprehensive approach.

-- Willingness to carry out particularly painful adjustments, such as bankruptcies and wage reforms, that lead to wide differentials in pay.

-- Greater consolidation of economic ministries and cuts in staff.

-- Continued publication of controversial articles by reform economists arguing for expansion of reform.

Probably the key indicator of how serious the Soviets are about economic reform, however, is how thoroughly they institute price reform, an issue which still apparently has not been resolved. Some Soviet economists have argued that wholesale price reform, where prices reflect the true scarcity of resources, is

Inset

Downplaying The Importance of Growth: A Possible Shift in Soviet Strategy?

Gorbachev, Plenum Speech, June 1987:

> Fears are being expressed that a temporary decline in production growth rates in individual sectors, regions, and even the country as a whole may take place, given the abandonment of direct prescription of volume indicators for associations and enterprises in conditions of complete economic accountability. What can be said of this issue, comrades? If it is a question of higher growth figures achieved by cranking up gross volumes, via double counting, and without a real increase in end results, the society not only gains nothing from this, it actually sustains losses.
>
> The radical restructuring of statistics is a very large and acute question. A drastic turn toward qualitative indicators, the expansion of information on questions of regional and social development, and the execution of various selective studies are needed here. (Emphasis added.)

Gorbachev in Leningrad, October 1987:

> Many years of practice have taught us all to handle figures for growth in production volume and capital investments and other economic indicators with assurance....But, comrades, we do not need these figures for their own sakes. We must in any event be able to answer with confidence the question: What relation does this kind of figure have to the process of genuine growth of the well-being of the working people...

Nikolay Shmelev, (Economist with the Institute of the USA and Canada), Japanese Press Interview, March 1988:

> It is better not to judge current Soviet economic progress by figures. At present the only field that demands a high degree of growth is advanced technology....In this age of reforms, one percent growth is sufficient.

essential for the enterprise financial reforms to work. Such reform would mark a move away from an economy based on centralized management--i.e., an economy that does not rely on the state planning or state supply committees for its day-to-day functioning. Retail price reform, which would include the removal of subsidies from basic necessities such as food and housing, would be extremely controversial and painful to consumers, but would be an even clearer sign of the leadership's willingness to undertake painful economic change.

If, on the other hand, the leadership decides to retrench, we would expect to see an erosion of the reform process; it is unlikely, however, that the blueprint for reform would be formally erased from the books. Retrenchment would be indicated by:

-- The dominance in leadership speeches of themes of discipline and accountability over the importance of economic guides for decisionmaking.

-- Increasing concern by the leadership over the effect of short-term disruptions on economic growth and a reduced sense of urgency for reform.

-- Evidence that central controls over production and resource allocation are not being lifted--for example, only a small decline in the portion of state orders in total industrial output.

-- A more relaxed mood on the part of the ministerial bureaucracy.

Shifts in Resource Allocation

Besides a willingness to push reform, the other key indicator of the leadership's commitment to Gorbachev's economic agenda will be its willingness to hold down defense outlays over the next few years in order to channel more resources into civilian investment and consumption. Absent a policy decision

to involve defense industry much more heavily in the modernization program, we are currently projecting that Soviet defense spending will continue to increase over the next five years, at roughly the rate of recent years--perhaps 2 percent per annum. A sharp decline of observed defense activity in the years ahead from what we are now projecting would suggest that a decision to reduce defense outlays had been made. Nevertheless, we could not be certain whether observed deviations from our projections meant that the Soviets had changed their plans or simply that our projections had been wrong.

On a more general level, a leadership decision to focus additional resources on the modernization program could affect how the USSR approaches its international commitments. Moves to cut back on Third World aid, actually pulling Soviet troops out of Afghanistan, or greatly expanding trade with the West could all signal an intention to deal with international situations in a way that complements domestic economic policy.

The clearest indication, however, of how the leadership will adjust its modernization objectives in the light of developments on the domestic and foreign scene will probably be provided in the Basic Directives for the next fifteen-year plan (1991-2005) that will probably be approved in 1989. How this plan compares with the targets in the 1986-2000 Plan should signal whether the pressure for high growth is to be relaxed and what priorities for resource allocation will be.

APPENDIX A

1987 Economic Performance: Conflicts Emerge

Bad weather early in the year combined with conflicting goals in Gorbachev's economic program to disrupt production in 1987. A slowdown in industrial growth and a decline in agricultural output yielded GNP growth of less than 1 percent--the lowest rate since the late 1970s.

Industry

Industrial production grew by only 1.5 percent in 1987, about on a par with the poor rates achieved during the 1981-85 period (see table A-1). A sluggish performance was almost inevitable given the disruptions caused by the implementation of gospriyemka and new managerial and financial arrangements. These changes, coupled with bad weather, caused the greatest problems in the first two months, when industrial output was 1 percent below the same period in 1986. Even when weather improved and quality control standards were relaxed, a taut transportation system limited industry's ability to make up for the poor start.

Machinery. Last year was a difficult one for civilian machine builders. Faced with high growth targets and demands to improve product quality, they struggled just to meet 1986 production levels, and month-to-month growth rates fluctuated widely. Shortfalls were recorded in the output of both consumer and producer durables. Consumer durables production was more than 2 percent below 1986 levels, and production of producer durables in 1987 was virtually unchanged from the previous year. Particularly troubling for the modernization program was the fact that over two-thirds of the targets set for the production of advanced and highly-efficient types of output were not met.

Table A-1

USSR: Growth of Industrial Production and Transportation[a]

(average annual rate of growth, percent)

	1971-75	1976-80	1981-85	1985	1986	1987[b]
Total industry	5.4	2.6	1.8	1.8	2.6	1.5
Fuels	5.2	3.1	0.9	NEGL	3.5	2.5
Electric power	7.0	4.5	3.6	3.5	3.5	4.1
Ferrous metals	4.0	1.0	0.8	0.7	3.4	2.2
Nonferrous metals	5.7	1.5	2.0	3.0	3.0	1.9
Machine building	6.7	3.7	1.3	2.3	2.8	0
Chemicals	8.3	3.0	3.8	4.1	4.6	3.2
Construction materials	5.1	1.4	1.4	1.4	3.9	3.1
Wood products	2.5	-0.6	2.1	2.1	4.6	2.0
Soft goods	2.6	2.4	1.6	2.4	1.5	1.8
Processed foods[c]	4.1	1.4	1.9	-1.7	-4.9	0
Freight transportation[d]	6.6	4.3	2.9	1.7	5.0	0.7

[a] Official Soviet measures of aggregate growth are believed to contain an upward bias because of increased double counting over time and disguised inflation. Although we accept official Soviet data for physical output of various commodities, the aggregate measures shown for each industrial branch were derived synthetically. The growth rates are formed by combining the value of a sample of products for each branch, with interbranch purchases excluded, using 1987 value-added weights.

[b] Preliminary.

[c] Including alcoholic beverages. Growth of food-processing industry output in 1986 and 1987 excluding alcohol was 4.4 percent and 3.1 percent, respectively.

[d] Growth rates calculated from ton-kilometer data.

A principal reason for production shortfalls was the introduction of gospriyemka, which accounted for 35 percent of the failures to achieve plan targets for machinery output, according to a Soviet economist. During the first several months, inspectors rejected an average of 20 percent--in some cases far more--of all the products checked. Because many enterprises were unable to deal with the tough quality standards, Moscow reportedly relaxed them by mid-year, granting some enterprises two- to six-month exemptions. Consequently, although machine builders made some selective gains, they did not achieve the overall quality improvements that the leadership initially expected.

The Soviets experienced mixed results with regard to two other key modernization objectives--retooling and producing new machinery and equipment. Leadership statements and press reporting suggest that, while substantial resources were devoted to the retooling effort, the effort fell far short of plan. On the other hand, machine builders reportedly made substantial progress in producing new equipment. For the year, new machinery accounted for 9 percent of machine-building output--well ahead of plan, although the Soviet press has raised questions as to how "new" some of the machines were.

Industrial Materials. The industrial materials sectors (ferrous and nonferrous metals, chemicals, construction materials, and wood products) all grew more slowly in 1987 than in 1986 and contributed to the erratic performance of machine building and other sectors of the economy. For the most part, producers of industrial materials were unable to accelerate growth in 1987 as they did in 1986 because most of the gains in 1985--added shifts and tapping the most accessible reserves of labor, material, and equipment--were one-time improvements. In addition, gospriyemka brought disappointing results--frequent disruptions with apparently little improvement in quality. Industry figures show:

-- Ferrous metals production grew by 2.2 percent, down from 1986's pace. Shortfalls in producing a wide assortment of specialty steels and an across-the-board failure to meet delivery schedules were noted throughout the year.

-- Nonferrous metals output rose by an estimated 1.9 percent. Moreover, press reports indicated that, despite quantitative gains, some specialized metals were in short supply.

-- Chemicals output grew by 3.2 percent as continued strong performance in fertilizer production offset a weakening in most other areas.

-- Output of construction materials grew by 3.1 percent, as growth in cement and ferroconcrete more than offset small declines in the production of glass and roofing materials. Complaints about waste and poor quality appeared in the press throughout the year.

-- Output in the timber industry declined. Shortfalls here hampered production in the sectors it supplies--wood products, pulp and paper, furniture, and housing materials.

Energy. The major energy branches posted good performances in 1987 as the oil, gas, coal, and electric power industries all grew at a healthy clip. Continuing the upswing begun in 1986, oil production grew by 180,000 barrels per day (b/d), to 12.48 million b/d. Success was expensive, however. Moscow achieved this growth primarily through another large infusion of resources and equipment. Although investment information is sketchy, the activities that drive investment rose sharply last year. Drilling in this sector, for example, apparently grew by about 20 percent, repeating the rate of increase in 1986.

Natural gas producers maintained their role as the primary sources of growth in Soviet energy, with production rising by 6.0 percent to 727 billion

cubic meters. Development of the substantial reserves of high-sulfur gas in the Pre-Caspian Basin, which proceeded despite difficulties, and progress in augmenting the Soviets' enormous gas pipeline network should provide the basis for future growth.

After achieving record growth in 1986, raw coal production increased again--albeit more slowly--in 1987, reaching 760 million tons and exceeding planned output by almost 15 million tons. Recent growth in coal production has been almost wholly offset by the declining average energy content of the coal. Recent Soviet statistics indicate that the average energy content per ton of coal has declined by roughly 10 percent since 1980.

Electric power production increased by 4 percent in 1987, to 1665 billion kilowatt hours. The fossil-fuel, hydro, and nuclear power segments all surpassed their 1986 performance. Nuclear plants overcame the Chernobyl setback as nuclear generating capacity grew by 19 percent. The successes in the power industry were somewhat clouded, however, by trouble in bringing new coal-and natural-gas-fueled capacity on line.

Consumer goods industries. Light industry output increased by 1.8 percent, slightly faster than in 1986, as textile and knitware production did well, partly making up for the slow growth in the footwear and sewn goods subsectors. Light industry was hurt by disruptions due to problems with transportation and electric power, gospriyemka, the poor 1986 cotton harvest, and uneven deliveries of man-made fibers from the chemical-industry. The processed food industry enjoyed a relatively good year in 1987, although its performance failed to match the unusually strong showing in 1986. Total production--excluding alcoholic beverages--grew by 3.1 percent. Growth was bolstered by an increase in some supplies from agriculture, particularly meat

and sugar. Offsetting this increase, however, was an apparent deterioration of food quality. Numerous press articles criticized the decline in state standards for many products, including such staples as bread and tea.

Agriculture

Overall farm production, although down 3 percent from the 1986 peak, was still the second highest on record. Maintaining agricultural production at this level in the face of less-than-favorable weather reflected at least partial success for Gorbachev's farm policy.

On the positive side, the Soviets achieved substantial increases in the output of sugar beets and sunflower seed, and enjoyed a 211-million-ton grain crop (one million tons above last year's). An excellent forage crop, the large grain crop, and sizable grain imports helped to push meat, milk, and egg production to new highs. Gorbachev's program to increase animal productivity--meat per animal and milk per cow--by culling marginal animals from the herds also played a role in increasing meat production. On the negative side, however, these gains were not sufficient to counter declines the Soviets experienced in potato, vegetable, and cotton output, and a 30-percent drop in fruit output.

Agriculture's mixed performance in 1987 has hampered, at least temporarily, Gorbachev's promises to improve consumer welfare quickly. The availability of farm products on a per capita basis fell by an estimated 3 percent. Per-capita meat availability increased by just over 1 percent, far short of the growth required to satisfy a consumer demand that is driven by steadily increasing incomes and a policy of holding retail prices constant.

Transport

Transport carriers mustered only a 0.7-percent increase in freight traffic in 1987, compared with an unusually strong 5-percent gain in 1986. The poor performance stemmed mainly from a decline in rail shipments (the first since 1982), which reflected the Soviets' lack of sufficient surge capacity to handle the backlog of shipments that built up during the crippling early winter months. Rail problems delayed shipments of timber, perishable foods, metal structures, peat, refractory materials, and slag.

While all freight carriers suffered from winter bottlenecks, there were some positive developments in the Soviet transport sector:

-- Shipments by the centrally directed highway carriers grew for the second straight year after declining in 1983-85.

-- Railroads and highway carriers managed to transport another successful grain crop with only isolated problems.

-- Increases in oil and gas production spurred stepped-up pipeline deliveries, although the increases were lower than in 1986.

Trade

The USSR's hard currency trade balance showed marked improvement in 1987 because of higher export earnings and little change in the value of imports. To judge from preliminary data, the Soviets recorded an estimated hard currency trade surplus of $4.6 billion for the year--more than double the 1986 surplus. The dollar value of hard currency exports jumped about 10 percent, due in large part to a partial recovery of oil prices and an increase in the volume of oil exported to the developed West. In addition, the dollar value of hard currency arms sales to the Third World remained high for the second consecutive year. Most of the arms sales were on credit, however, and the prospects for repayment are poor.

Moscow apparently decided to take advantage of higher export earnings to cut both net foreign borrowing and the volume of gold sales. According to preliminary data, the Soviets also held the line on the dollar value of hard currency imports, with real purchases dropping an estimated 15-18 percent, after factoring in the depreciation of the dollar. Confusion resulting from the ongoing reorganization of the foreign trade sector may also have reduced imports. Imports of machinery and equipment are estimated to have declined, as preliminary data show steep drops in the value of imports from traditional suppliers of machinery and equipment, including Japan, West Germany, and Austria. Imports of grain increased, on the other hand, even though the Soviets recorded another large grain crop. The poor quality of this crop--a result of wet weather during harvesting--spurred purchases of milling-quality wheat during the second half of the year.

In contrast to its hard currency trade success, the USSR was less fortunate in trading with its Communist partners last year. In particular, Moscow's total trade surplus with Communist countries was cut in half last year as falling energy prices--the result of CEMA's complicated pricing mechanism--cut sharply into Soviet terms of trade. Trade with East Europe was roughly in balance, with only marginal growth registered for East European exports to the USSR. Moscow was also forced to cut back on imports from Yugoslavia--another large importer of Soviet oil--to hold down its growing trade deficit with that country. While oil does not figure in Sino-Soviet trade, Moscow saw trade with China drop last year following rapid growth during 1982-86. Real trade declined an estimated 15 percent, as both sides failed to provide the goods called for in the annual trade protocol.

APPENDIX B

Tables on Soviet Economic Performance

Table 1 USSR: GNP by Sector of Origin at Factor Cost (billion 1982 rubles)

Table 2 USSR: Value Added in Industry at Factor Cost (billion 1982 rubles)

Table 3 USSR: Average Annual Growth of Per-Capita Consumption (1982 established prices)

Table 4 USSR: Growth of GNP and Factor Productivity (average annual percentage change)

Table 5 USSR: Growth of Industrial Output and Factor Productivity (average annual percentage change)

Table 6 USSR: Gross Fixed Capital Investment (billion rubles, 1984 prices)

Table 7 USSR: Estimated Hard Currency Balance of Payments (million current US dollars)

Table 8 USSR: Total Trade, 1981-87 (billion current US dollars)

Table 9 USSR: Estimated Hard Currency Debt to the West (billion current US Dollars)

Table 10 USSR: Selected Indicators of Agricultural Output

Table 1

USSR: GNP by Sector of Origin at Factor Cost
(billion 1982 rubles)

	1965	1970	1975	1980	1981	1982	1983	1984	1985	1986	Preliminary 1987
GNP[1]	377.1	482.2	560.4	625.2	631.7	648.5	669.6	679.1	684.0	710.7	714.4
Industry	105.7	143.3	186.4	212.3	214.2	216.4	221.8	227.5	231.7	237.8	241.5
Agriculture	116.6	137.7	122.5	123.7	120.6	131.3	139.4	136.7	131.1	143.9	136.4
Construction	25.8	33.5	44.0	49.9	51.2	51.7	53.2	54.3	55.5	57.6	58.7
Transportation	26.2	37.0	50.9	60.7	63.2	64.0	65.8	66.8	68.2	70.2	71.6
Communications	2.2	3.3	4.4	5.6	5.8	6.0	6.2	6.4	6.7	7.1	7.5
Trade	20.5	28.9	36.3	41.6	42.3	42.4	43.6	44.8	45.3	45.4	46.1
Services	69.1	85.2	100.8	115.2	118.0	120.1	122.8	125.7	128.7	131.6	135.4
Other (including military personnel)	11.0	13.4	15.0	16.3	16.4	16.6	16.8	16.9	16.9	17.1	17.2

[1] Components may not add exactly to total because of rounding.

Table 7

USSR: Value Added in Industry at Factor Cost
(billion 1982 rubles)

	1965	1970	1975	1980	1981	1982	1983	1984	1985	1986	Preliminary 1987
Industry[1]	105.7	143.3	186.4	212.3	214.2	216.4	221.8	227.5	231.7	237.8	241.5
Ferrous metals	8.5	11.0	13.4	14.1	14.1	14.1	14.5	14.6	14.7	15.2	15.6
Nonferrous metals	3.9	5.7	7.5	8.1	8.1	8.2	8.4	8.7	9.0	9.2	9.4
Fuel	11.1	14.4	18.6	21.7	22.0	22.4	22.6	22.8	22.7	23.5	24.1
Electric power	6.0	8.8	12.4	15.4	15.8	16.3	16.9	17.8	18.4	19.0	19.8
Machine building & metal working	31.4	44.2	60.7	72.8	72.3	72.8	73.9	75.9	77.7	79.9	79.9
Chemicals	6.2	9.2	13.7	15.9	16.5	16.8	17.8	18.4	19.1	20.0	20.7
Wood, pulp, and paper	10.1	11.5	13.0	12.7	12.9	13.0	13.4	13.7	14.0	14.7	15.0
Construction materials	6.9	9.3	11.9	12.7	12.9	12.8	13.3	13.5	13.7	14.2	14.6
Light industry	8.4	11.5	13.0	14.7	15.0	14.9	15.1	15.5	15.9	16.1	16.4
Food industry	9.3	12.3	15.1	16.1	16.6	17.1	17.6	18.0	17.7	16.9	16.9
Other industry	4.0	5.4	7.0	8.0	8.1	8.2	8.4	8.6	8.7	9.0	9.1

[1] Components may not add exactly to total because of rounding.

Table 3

USSR: Average Annual Growth of Per-Capita Consumption

(1982 established prices)

	1956-60	1961-65	1966-70	1971-75	1976-80	1981	1982	1983	1984	1985	1986	Preliminary 1987
Total consumption	3.9	2.5	5.0	3.0	2.0	1.3	-0.9	1.3	2.1	0.1	-2.0	0.7
Food	3.1	1.8	4.2	2.1	1.1	-0.1	-1.4	1.4	1.5	-3.2	-8.0	-0.9
Soft goods	5.6	2.2	7.2	2.7	2.8	2.1	-1.5	0.6	2.4	3.2	2.3	0.6
Durables	10.4	3.9	9.5	9.7	5.4	6.3	-2.6	1.7	4.6	5.2	7.0	2.8
Services	3.2	4.6	4.1	3.0	2.0	1.5	1.9	1.4	1.9	1.8	1.6	2.7
Housing	3.0	2.4	2.0	1.6	1.2	1.4	1.9	1.9	1.6	1.6	1.7	1.9
Utilities	4.7	7.8	5.4	5.3	3.8	2.7	3.1	3.2	4.1	3.3	3.0	3.1
Transportation	9.3	9.0	8.2	6.4	2.2	3.2	1.1	1.4	1.6	1.4	2.2	1.1
Communications	5.4	5.7	7.6	5.4	3.8	3.5	1.3	2.5	3.7	3.7	4.6	4.9
Repair and Personal Care	3.7	5.0	6.4	4.4	4.1	3.4	2.1	3.5	3.1	3.5	3.1	8.2
Recreation	5.3	3.6	2.6	4.1	1.2	1.8	0.6	0.5	1.0	1.1	0.2	2.0
Health	3.4	2.2	3.2	1.6	0.9	0.1	1.3	1.0	1.3	0.8	-0.5	0.2
Education	1.4	5.2	3.0	1.5	1.4	0.1	2.4	-0.1	1.0	1.2	1.1	1.5

Table 4

USSR: Growth of GNP and Factor Productivity
(average annual percentage change)

	1966-70[1]	1971-75[1]	1976-80[1]	1981	1982	1983	1984	1985	1986	Preliminary 1987
Gross national product[2]	5.0	3.1	2.7	1.0	2.7	3.3	1.4	0.7	3.9	0.5
Combined inputs[3]	4.2	4.1	3.6	3.2	3.2	3.0	2.9	2.6	2.5	2.5
Workhours	2.0	1.7	1.2	0.9	1.0	0.7	0.5	0.4	0.4	0.4
Capital	7.4	8.0	6.9	6.4	6.3	6.3	6.3	5.8	5.4	5.3
Land	0.0	0.1	-0.1	-0.1	-0.1	0.1	-0.1	-0.7	-0.1	0.0
Total factor productivity	0.8	-1.2	-1.3	-2.1	-0.5	0.2	-1.4	-1.9	1.4	-1.9
Workhour productivity	3.0	1.3	1.0	0.2	1.7	2.5	0.9	0.4	3.5	0.1
Capital productivity	-2.2	-4.4	-4.4	-5.0	-3.4	-2.9	-4.6	-4.8	-1.4	-4.6
Land productivity	5.0	3.0	2.4	1.2	2.8	3.2	1.6	1.4	4.0	0.5

[1] For computing average annual rates of growth, the base year is the year prior to the stated period.

[2] Based on indexes of GNP (1982 rubles) by sector of origin at factor cost.

[3] Inputs of workhours capital, and land are combined using weights of 56.5 percent, 40.5 percent, 3.0 percent, respectively in a Cobb-Douglas (linear homogeneous) production function. These weights represent the distribution of labor costs (wages, social insurance deductions, and other income), capital costs (depreciation and a calculated capital charge), and land rent in 1982, the base year for all indexes underlying the growth rate calculations.

Table 5

USSR: Growth of Industrial Output and Factor Productivity
(average annual percentage change)

	1966-70[1]	1971-75[1]	1976-80[1]	1981-85	1985	1986	Preliminary 1987
Industrial production	6.1	5.4	2.6	1.8	1.8	2.6	1.5
Combined inputs[2]	6.2	5.5	4.9	4.1	3.9	3.4	2.9
Workhours	3.1	1.5	1.4	0.6	0.4	0.3	-0.2
Capital	8.8	8.7	7.7	7.0	6.6	6.0	5.5
Total factor productivity	0.1	-0.1	-2.1	-2.3	-1.9	-0.8	-1.4
Workhour productivity	3.1	3.9	1.3	1.2	1.4	2.3	1.7
Capital productivity	-2.1	-3.1	-4.7	-4.9	-4.5	-3.1	-3.7

[1] For computing the average annual rates of growth, the base year is the year prior to the stated period.

[2] Inputs of workhours and capital are combined using weights of 47.4 percent and 52.6 percent, respectively, in a Cobb-Douglas (linear homogeneous) production function. These weights represent the distribution of labor costs (wages, social insurance deductions, and other income) and capital costs (depreciation and a capital charge) in 1982, the base year for all indexes underlying the growth rate calculations.

Table 6

USSR: Gross Fixed Capital Investment

(billion rubles, 1984 prices)

	1965	1970	1975	1980	1981	1982	1983	1984	1985	1986
Total Investment	64.2	92.2	128.5	150.9	156.5	161.9	171.0	174.3	179.5	194.4
By source:										
State	55.3	79.4	111.8	133.1	138.5	143.2	150.7	153.7	157.9	172.0
Collective farms	5.5	8.6	12.2	13.3	13.4	13.9	14.8	14.7	15.4	15.5
Cooperative enterprises and organizations	1.7	2.6	2.7	2.9	2.9	3.1	3.5	3.6	3.7	4.1
Private housing and apartments	1.7	1.6	1.8	1.6	1.7	1.7	2.0	2.3	2.5	2.8
By sector:										
Industry	23.6	32.5	44.9	53.3	55.4	57.0	60.1	62.7	65.5	71.0
Agriculture	10.6	16.0	26.1	29.8	30.5	31.0	32.1	31.1	31.5	33.5
Transportation and communications	6.4	9.0	14.4	18.1	18.9	19.9	21.4	22.3	21.9	22.8
Construction	1.6	3.3	4.8	6.0	5.8	6.3	6.3	5.8	6.1	6.8
Housing	11.2	15.8	19.2	21.1	22.4	24.0	25.9	27.3	28.1	30.9
Trade and services	10.8	15.6	19.1	22.6	23.5	23.7	25.2	25.1	26.4	29.4

*Source: Narodnoye Khozyaystvo v SSSR, 1985, 1986.

Table 7

USSR: Estimated Hard Currency Balance of Payments
(Million Current US Dollars)

	1975	1980	1981	1982	1983	1984	1985	1986	1987[a]
Current account balance	-4,565[b]	1,485	-395	4,348	4,772	4,664	137	1,373	3,465
Merchandise trade balance	-4,804	1,814	365	4,468	4,712	4,727	519	2,013	4,600
Exports, f.o.b.	9,453	27,874	28,254	31,975	32,429	32,173	26,400	25,111	27,600
Imports, f.o.b.	14,257	26,060	27,889	27,507	27,717	27,446	25,881	23,098	23,000
Net interest	-521	-1,219	-1,760	-1,220	-1,040	-1,163	-1,482	-1,740	-2,235
Other invisibles and transfers	760	890	1,000	1,100	1,100	1,100	1,100	1,100	1,100
Capital account balance	6,178	20	5,353	-3,579	-1,023	-124	1,868	2,118	200
Change in gross debt[c]	5,755	-1,059	2,244	-1,288	665	224	6,804	7,175	5,000
Official debt	1,492	-280	-1,370	967	340	-375	463	1,089[d]	1,900
Commercial debt	4,263	-779	3,614	-2,225	325	599	6,340	6,086	3,100
Net change in assets held in Western banks[d]	-391	-35	-166	2,122	277	-664	1,787	1,635	0
Estimated Exchange Rate Effect	-22	-414	-1,445	-821	-1,039	-688	3,248	3,322	3,500
Net credits to the LDCs	715	950	870	2,120	3,200	2,700	1,700	4,100	4,800
Gold sales	725	1,580	2,700	1,100	750	1,000	1,800	4,000	3,500
Net errors and omissions[e]	-1,613	-1,505	-4,958	-769	-3,749	-4,548	-2,005	-3,491	-3,665

[a] Preliminary.
[b] A minus sign signifies a decline in the value of assets.
[c] Including additions to short-term debt.
[d] Including exchange rate effect.
[e] Includes hard currency assistance to and trade with Communist countries, credits to the LDCs under military and economic aid programs, credits to developed Western countries to finance sales of oil and other commodities, as well as errors and omissions in other line items of the accounts. Among the omissions is an adjustment for fluctuations in the US dollars vis-a-vis other Western currencies.

Table 8

USSR: Total Trade, 1981-87[1]
(Billions of Current US Dollars)

	Annual Average 1981-87	1981	1982	1983	1984	1985	1986	1987[2]
USSR: Exports by region								
Total	97.3	79.4	87.2	91.7	91.5	86.9	97.0	104.5
Communist	49.3	43.4	47.1	51.0	51.9	53.2	65.0	68.6
Developed countries	25.2	24.4	26.2	26.7	26.4	22.5	18.8	22.2
Less developed countries	12.7	11.6	13.8	13.9	13.2	11.2	13.2	13.7
USSR: Imports by region								
Total	78.3	73.2	77.8	80.5	80.3	82.9	88.9	95.2
Communist	44.3	37.2	42.5	45.5	47.0	50.6	59.4	65.5
Developed countries	24.6	25.4	26.2	25.4	24.2	23.3	22.7	22.2
Less developed countries	9.4	10.6	9.1	9.6	9.1	9.0	6.8	7.5

[1] Includes both hard currency trade and trade conducted with soft currency partners on a clearing account basis.

[2] Preliminary.

Table 9

USSR: Estimated Hard Currency Debt to the West[a]

(Billion Current US Dollars)

	1975	1980	1981	1982	1983	1984	1985	1986[b]	1987[b]
Gross debt	12.6	20.4	22.6	21.3	22.0	22.2	29.0	36.2	41.2
Commercial debt[c]	8.3	10.9	14.5	12.3	12.6	13.1	19.5	25.6	28.7
Government and government-backed debt[c]	4.3	9.5	8.1	9.0	9.4	9.1	9.5	10.6	12.5
Assets in Western banks	3.8	10.0	9.8	11.9	12.2	11.5	13.3	15.0	15.0
Net debt	8.8	10.4	12.8	9.4	9.8	10.7	15.7	21.2	26.2

[a] This series is based on a recently completed revision of the methodology for computing Soviet debt. The data therefore may not correspond to previously published series.

[b] Preliminary estimates.

[c] Estimates of government-backed and commercial debt are measured in current dollars and reflect fluctuations in exchange rates. Commercial debt also includes estimates for promissory notes held outside banks.

Table 10

USSR: Selected Indicators of Agricultural Output

	1955	1960	1965	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987
Value of output[a] (billion rubles)	63.8	78.8	94.0	112.5	109.4	113.7	112.5	120.8	128.6	128.0	126.0	136.3	132.0
Commodity production (million metric tons)													
Grain[b]	103.7	125.5	121.1	186.8	140.1	189.1	158.2	186.8	192.2	172.6	191.7	210.1	211.3
Potatoes	71.8	84.4	88.7	96.8	88.7	67.0	72.1	78.2	82.9	85.5	73.0	87.2	75.9
Sugar beets	31.0	57.7	72.3	78.9	66.3	81.0	60.8	71.4	81.8	85.4	82.1	79.3	90.0
Sunflower seed	3.80	3.97	5.45	6.14	4.99	4.62	4.68	5.34	5.06	4.53	5.23	5.26	6.10
Cotton	3.88	4.29	5.66	6.89	7.86	9.96	9.64	9.28	9.21	8.62	8.75	8.23	8.10
Vegetables	14.1	16.6	17.6	21.2	23.4	27.3	27.1	30.0	29.5	31.5	28.1	29.7	29.1
Meat	6.3	8.7	10.0	12.3	15.0	15.1	15.2	15.4	16.4	17.0	17.1	18.0	18.6
Milk	43.0	61.7	72.6	83.0	90.8	90.9	88.9	91.0	96.5	97.9	98.6	102.2	103.4
Wool	.256	.357	.357	.419	.467	.461	.460	.452	.462	.465	.447	.469	.455
Eggs (billion)	18.5	27.5	29.1	40.7	57.4	67.9	70.9	72.4	75.1	76.5	77.3	80.7	82.1

[a] Net of feed, seed, and waste, in constant 1982 prices.

[b] Bunker weight. To be comparable to Western measures, an average reduction of 1 percent is required.

Senator PROXMIRE. Mr. MacEachin.

Mr. MACEACHIN. Senator Proxmire, I would like to introduce the two gentlemen on my left, Mr. Whitehouse and Mr. Abbott, both of whom, along with me on previous occasions have had the privilege of appearing before this committee. Also in attendance is Mr. Lecky, who is a Senior Analyst in the Defense Economics Division and who deserves much of the credit for drafting and coordinating the report which was submitted to the committee. I will let General Horton introduce the people with him.

I would like to say that I am sorry I was not in on the early part of the hearings in the 1970's, but I know I speak for all my colleagues in saying what a privilege it has been, and we too hope that the hearings will continue.

General HORTON. I am Gen. Barry Horton, newly arrived at DIA from the National Intelligence Council where I was chair. So I am the newcomer here today, Senator Proxmire. It is a privilege to be with you today.

Joining me are some folks who have been here before. Mr. Dennis Nagy, to my immediate right, who is the Assistant Deputy Director for Research, the Directorate for Foreign Intelligence.

Behind him is Mr. Jerry Weinstein, who is the Senior Economist within our organization, and some others from DIA as well.

We are all delighted to be here and prepared to summarize and answer your questions.

Senator PROXMIRE. Thank you very much. Mr. MacEachin, please begin.

STATEMENT OF DOUGLAS J. MacEACHIN, DIRECTOR, OFFICE OF SOVIET ANALYSIS, CIA, ACCOMPANIED BY MESSRS. WHITEHOUSE, ABBOTT, AND LECKY

Mr. MACEACHIN. Senator, I thought that rather than summarize the report which we have submitted, I would make a few remarks to try and put some of this analysis in a temporal context.

1988 ASSESSMENT

In 1986 we appeared before this subcommittee in what was, in effect, the first year of Gorbachev's first 5-year plan and his first annual plan. At that time it was already obvious, as we testified before the subcommittee, that his principal political agenda item was to wrench the Soviet economy back to the path of sustained economic growth. To perhaps oversimplify, his target was productivity. He recognized he had to increase productivity of the labor force in the U.S.S.R., and he adopted from the outset essentially a two-pronged approach. The first line has become known as the human factors campaign, that is, to improve labor discipline, stamp out or at least to reduce corruption, and the antialcohol campaigns.

Second, he targeted massive doses of investment for modernizing the industrial base of the U.S.S.R. both through accelerated retirement of capital and large investment in new machinery.

He also established qualitative goals in an effort to bring the output of the Soviet industry up to what he called world standards.

The human factors campaign as we described it then, and as it has turned out to be, was a short-term medicine. It could work for

a while, but as soon as the gains from those factors were used up something on the industrial modernization program had to begin to bear fruit for economic growth to be sustained.

PROBLEMS FORESEEN

As we told the subcommittee then, we foresaw trouble for Gorbachev. First of all, there were too few investment resources chasing too many needs. The growth targets themselves, we thought, were unrealistic, particularly when one took into account the competing demands of the energy sector and agricultural sector. There was an acknowledged squeeze on the consumer. Military expenditures remained at the generally low rate of growth, but they nevertheless remained at an extremely high absolute level.

There was also a systemic problem, personally, I call it the systemic blockage. The factors which made up this problem included a party and state bureaucracy which was being pressed for change without any incentive for change. The incentive factor was also missing from the work force, which was being asked to make sacrifices against the promise of some material gain down the line.

The plan itself contributed to resistance to implementation in the ranks because it maintained the high output goals at the very time it was demanding retrenchment and refurbishment of industry.

Last year we told the subcommittee that it had become evident to Gorbachev that political and social obstacles constituted his first principal hurdle, that while he may not have started out seeing himself as a reformer, he recognized that he had to make the basic political and organizational and systemic changes if he had any chance of getting his economic program to work.

The principal questions then became what kinds of reforms and how much reform; that is, was he going to tinker at the edge or was he going to get to some of the fundamental problems, and how fast.

Those questions, for the past 2 years at least, have become the principal agenda items for the political debates and the political turmoil that is taking place within the U.S.S.R.

ECONOMIC PERFORMANCE IN 1986 AND 1987

I would like to look at how this has played out. Nineteen eighty-six looked like it was a pretty good year for Gorbachev's start, at least when we viewed it in terms of gross measures. We estimated then that, largely as a consequence of the human factors campaign and some good luck and good weather, GNP grew at about 4 percent in 1986. But after we get past agriculture, and when we adjust the growth figures for factor costs and subsequent data from the studies of the Soviet output, 1986 didn't look quite as good. Industrial output, for example, grew at only 2.6 percent. This might be all right in some scenarios, but this was supposed to be the flagship of Gorbachev's program.

When we look past the purely quantitative data we find that Gorbachev himself and other senior Soviet leaders publicly criticized the machinery sector, concentrating their criticism mainly on its failure to make progress on a qualitative front. It is my own

personal view that the heat of that criticism and the prominence it was given indicate that the Soviet leadership was dissatisfied with the performance of the machinery sector.

In sum, while 1986 looked good on the surface, the results in critical sectors, particularly civilian machine building, didn't show the kind of progress that Gorbachev needed.

Nineteen eighty-seven has in fact turned out to be what we would describe as a sobering year. The gross national product, by our estimate, grew at only about one-half of 1 percent. Industry grew at about 1.5 percent, and agriculture, which by dint of good luck had led the overall GNP growth in 1986, fell by about 3 percent in 1987.

So, in effect, we think that all of those problems which we foresaw in Gorbachev's initial program came home to roost.

Senator PROXMIRE. What was your figure for industrial growth? You said nonagricultural growth was what in 1987?

Mr. MACEACHIN. Nonagricultural growth was 2.0 percent. Industrial growth was 1.5 percent.

In 1987 another particularly disruptive factor was the institution of a quality control program at the beginning of the year—how strictly it was maintained remains to be seen. They also introduced new financial reforms, which complicated the managerial tasks even more.

I say it remains to be seen how closely the quality control program was maintained, because after the first quarter it was obvious that this was so disruptive that there may have been some backsliding from enforcement of the quality control standards.

All of this has been detailed in the report which we and our DIA colleagues have submitted to the committee.

OUTLOOK

Let me turn to the outlook for a second. We continue to think that the outlook for Gorbachev's program is bleak unless and until the Soviets deal with the fundamental problems which we identified at the outset. In effect, the problems that have brought them to their present state. The management reforms that Gorbachev has started are pointed in the right direction, but they clearly do not go far enough.

At the heart of the issue, we think, is price reform. Changes and improvements in financial arrangements are like one hand clapping if the Soviets do not have a price system that reasonably approximates the relative market values of factors and products.

Similarly, organizational changes and other reforms without an accompanying incentive system to drive the implementation are a formula for evasion and circumvention at the working level.

There remains the fundamental imbalance of an economy that devotes one-sixth of its resources to a military establishment that is itself rife with the same kinds of inefficiencies that plague the economy and society as a whole.

So we think that the experience of the past year has caused at least some Soviet leaders and senior officials to take a more somber, realistic look at the task they confront and a somewhat more realistic appreciation of how long it is going to take them.

One of the trends—perhaps only nascent as we are not entirely certain of our data yet—but it does look as though the leadership has taken aboard the need to provide some consumer incentives. Some of the features of the more recent program suggest that the squeeze that was put on the consumer at the outset of the 5-year plan may be relaxed somewhat and that a greater effort is being made to show the working population some benefits of the program.

INVESTMENT AND SYSTEMIC PROBLEMS

There remains the fundamental problem of too few resources for investment chasing too many needs, and there is the systemic inefficiency of the Soviet central planning system and the immense bureaucracies.

What can the Soviet leaders do in the short and long term? When we look at the sources for investment resources, I think we have to rule out any squeeze of the consumer sector. Indeed, even if they weren't beginning to show more attention to consumer needs, there does not seem to be much room for squeezing the consumer.

Such other sectors as energy and agriculture do not appear to have any slack or any available resources without undue penalties.

DEFENSE SPENDING

It seems to me—and this is a personal view—that the immense drain on resources of their military establishment is going to come under increasing scrutiny. I certainly am not about to predict that the Soviets will cut back in the short term on resources, but I guess I would argue that if they don't begin to reduce the share of GNP that is claimed by the military, I don't see much prospect for any of these other measures doing more than just moderating the problem.

That could happen, of course, over time as the combination of tighter efficiency along with growth in the GNP causes the percentage of GNP going to the military to become less, but I simply do not see much prospect for an economy that devotes one-sixth of its resources to the military being able to lift itself out of the doldrums to which it has sunk.

FOREIGN MARKETS

Another possibility is foreign markets. If the Soviets are going to enter into the foreign market in a large way, there will have to be some fundamental changes in their willingness to carry debt service.

One possibility is that Moscow could turn to foreign markets for more consumer goods and concentrate its own internal resources on industrial modernization. Gorbachev has more than once said publicly that he believes it would be a mistake to become dependent on foreign sources for industrial technology. So if we had to make a guess, we might think that if he goes into the foreign market it will be for more consumer durables.

DEFENSE SPENDING

When I look at the incentives for reallocating some defense effort, one incipient move may be the involvement of the defense industries more in the production of consumer goods, which we have seen already this year. This was not done with any declaration of a shifting of resources but merely a reallocation of responsibility. Nonetheless, as a matter of practice, once the defense industries have responsibilities for different sectors, there may be some managerial decisions to reallocate some of their own resources.

As a final note, I would have to say that all of this pessimistic outlook has to take into consideration that this has been a Soviet leadership which has surprised us several times. Even some of us who have tried to convince others not to sell Gorbachev short have been caught by surprise. This is the Soviet leadership that has found a way apparently to get out of Afghanistan. This is the Soviet leadership that has taken steps which have been dramatic departures with the past.

PRICE REFORM

Nonetheless, I think fundamental price reform is not only a long way down the pike, but probably would be terribly disruptive if it were introduced suddenly in a large way. So my expectation is that, faced with their bleak outlook and coming off this sobering year, the Soviets, at this very moment engaged in the preparation of the next 5-year plan, will have to begin to look at some alternatives having to do with some combination of foreign markets, more investment in machinery and some short-term constraint on the drain which defense imposes on them.

Senator PROXMIRE. Thank you very much, Director.

General Horton, go right ahead.

STATEMENT OF MAJ. GEN. FRANK B. HORTON III, DEPUTY DIRECTOR, FOREIGN INTELLIGENCE, DIA, ACCOMPANIED BY MESSRS. NAGY AND WEINSTEIN

General HORTON. Like Mr. MacEachin, I will not attempt to summarize the report that has already been presented to you but rather elaborate on it, and in particular the interaction between perestroika and the military.

WHAT DOES GORBACHEV WANT?

Beginning at the beginning, if you will, we believe that what the Soviets want, Gorbachev or no Gorbachev, has not changed. The context in which they pursue their interests has changed, however. And it was recognized before Gorbachev came to power that the internal factors, that is, the strength of the economy in particular, were eroding, and external factors, that is, the relevance of their approach to influencing the international scene, were eroding as well. The Soviets saw a cold war shifting to some degree to a cold world facing both of us.

What does Gorbachev particularly want within that changing context? First of all, a strengthened economy, a more robust economy, but at the same time a robust military—one that he does not

have to sacrifice in order to gain a strong economy yet one which will eventually depend upon a strong economy—and a powerful party that remains in charge.

Glasnost does not necessarily mean democratization as we would understand it. Glasnost means, rather, an opening up of elements of the society so they may feel that they are participating and might provide greater support to the reform that he is pursuing to provide a strong economy while at the same time maintaining a robust military.

How can he get what he wants? By manipulating both internal and external factors that are available for him to manipulate and by so doing buy himself some time in the near term and perhaps the midterm as well, in the meantime increasing productivity if he can.

We have already heard projections that the prospects for increased productivity are not as great as Gorbachev might desire or as he might need to be able to avoid some very hard choices later on.

PROSPECTS

What are the prospects of his success in getting what he wants?

First of all, the prospects for his survival. There are some who would predict that his prospects are in fact bleak given the bleak outlook for the achievement of his objectives, and if he were to redouble his efforts to pursue those objectives his internal opponents might eventually do him in.

YELTSIN AFFAIR

I think the Yeltsin affair is instructive in this regard. On the one hand it has been used as an example of how Gorbachev does not have the grip on the political system that we had previously thought, but on the other hand it may be an indicator of his political strength, his ability to be a survivor and understand when those who are supporting his views go out too far on a limb he doesn't get out on the limb with them and is prepared to saw them off and remain with the main body on whose support he depends.

The degree to which he survives, however, may moderate the degree to which he succeeds in which he will have to continue to compromise with those who are concerned about how far and how fast reform might go and what it might do in terms of changing the social and political system in such a way that it becomes irreversible if it appears that the outcome is not what they had originally desired or projected.

WILL THE SYSTEM BE TRANSFORMED?

The basic question is, will the system be transformed? I believe that is probably unlikely. While there are indeed social forces being unleashed—we can see evidence of it now—that might if allowed to go their full course change the nature of the Soviet Union. At the same time one can expect, we believe, that those symptoms will be recognized and to the extent they are recognized and the dangers of them are felt to be acute, there would be retrenchment

and compromise, not going back to the way the system was before, but some intermediate position.

Intelligence, particularly DIA, is skeptical, therefore, as to what degree we see change in their approach to politics, economics, and military affairs.

NEED FOR REFORM

We do see a dynamism as reform is being pursued. Certainly that was necessary to deal with stagnation that the Soviets were facing, with a declining degree of growth in the GNP while at the same time a corresponding increase in growth of the share of GNP by the military, a situation that could no longer be solved simply by throwing more resources at the problem; the resources available were becoming more and more difficult to apply, particularly the natural resources, more expensive to apply; productivity really being the only answer to breaking out of that downward spiral.

TECHNOLOGY TRANSFER

The particular Achilles' heel that underlies the attempt to get out of that downward spiral is the ability of the economy to absorb technology. No doubt Gorbachev and others have been frustrated that while elements of the economy, particularly the military elements of the economy, have been reasonably successful in absorbing new technologies, other elements in the economy as a whole have been less successful.

TURNING TO THE MILITARY

Thus one might expect and one is seeing a turning to the military as both an engine to assist the rest of the economy to grow and also a source of resources potentially if not through a reduction in expenditures, at least expenditure avoidance in the future to balance and strengthen the economy upon which ultimately military strength does depend.

MILITARY REFORM

To be successful, then, it is not just economic reform, but also military reform that is required. We see attempts to improve discipline, to improve efficiency, to improve effectiveness of the military force, and to broaden the impact of the military on the rest of the economy and the rest of the society. They realize they can't compete with the United States, with Japan, with Europe successfully in the international system and extend its influence while still burdened with an almost exclusive focus on the military dimension and superpower status.

There are a couple of choices that the Soviets could make. It is not quite clear as yet as to which choice they are pursuing, and it may not be clear in their own minds. On the one hand there is, if you will, slowing down the rate of growth of the military and increasing productivity of the rest of the economy. The other approach is to simply reduce the amount expended on the military and invest still more in the rest of the economy.

I believe that they are currently pursuing the first but would like us to believe that they are pursuing the second. The degree to

which they are pursuing one or the other depends on certain indicators in terms of changes in their programmatics, the activities, such as the degree of deployment of their naval forces and personnel—what are they going to do with those who have been, for example, in the SS–20 force? Do they get shifted to other elements of the military or do they get shifted to other elements in the economy?

SLOWING MILITARY GROWTH

I mentioned earlier that Gorbachev has some internal and external factors available to him to influence the degree to which the first approach, that is, simply cutting back a bit on the emphasis on military while increasing productivity, as opposed to having to go to the second approach, cutting back on the level of investment.

The internal factors that help him to avoid choosing the second path for the time being is that indeed he has started out with a very high base of military expenditure and over the last 10 years military capital investment on which they can draw for some period of time, 2 or 3 years at least, perhaps longer, to continue the modernization and fleshing out of military forces, both nuclear and conventional, without having to make a hard choice between additional investment in the military industrial base and the rest of the industrial base on which the rest of the economy depends.

Indeed, within that base which was militarily oriented there was some slack in the system. The human factors and other approaches that have already been alluded to have had some impact on the productivity of the military sector. As a result, I think we can expect to see some growth but a slower growth than in the past of military investment and military expenditures overall, but over the long haul we can expect some harder choices than are faced today, harder choices which may bring forth again the issue of can we continue simply slowing the rate of investment or do we have to have zero growth or even negative growth rate of investment in the military. But that choice does not have to be made today.

NEW SOVIET IMAGE

Fuzzying up that choice and also helping to prolong the need to make that choice are the external factors available to Gorbachev, in effect making a virtue of necessity in a sense and creating a new image for the Soviet Union and in that image defusing United States and Soviet confrontation, slowing down the rate of U.S. military growth and technological investment, and tapping into our technology and the rest of the West's technology to enhance the economic growth of the Soviet Union, although recognizing that eventually one has to develop ones own ability to innovate and go beyond the technologies that one can borrow or steal from the West.

With regard to the NATO-Warsaw Pact confrontation, again defusing that, trying to develop divisions within the alliance, and we can see evidence of that approach.

Globally, taking a more indirect approach to making inroads not only with those who have been their client states in the past, but also those moderate states. Let's say, for example, in the Middle

East. Expanding their influence in new ways by presenting a new image to the world.

With the military now being more in the background than in the foreground than before, broadening the application of that military but continuing to build it. If you will, putting the iron fist inside a velvet glove, at least as it is seen from the outside.

ARMS CONTROL

Arms control plays a very important part in all of that. It has a political aspect to it. It is very important with regard to defusing the confrontations. It has a military aspect to it, an ability to have some control over the correlation of forces as the Soviets see it without having to greatly increase investments to maintain that correlation of forces.

It has an economic and technological aspect to it in that it creates an environment in which, on the one hand, technological competition is slowed and, on the other hand, the availability of technology from the West becomes more readily accessible.

GROWTH IN PROCUREMENT

So what do we see as we look at the Soviet Union today out of all of that? Some contradictions, some puzzles. Indeed, we see that since 1984 military procurement has continued to grow and it has continued to grow faster than the investment on the civilian side.

A couple of ways one might explain that in the context that I have just been through as a framework for analysis, on the one hand one could explain it in terms of the long leadtime of military procurement, the momentum of that procurement, the strong organizational basis of that procurement, a strong leaning toward national security as being a very important aspect of their interests, and a desire to negotiate in the arms control arena from a position of strength. There could be an alternative explanation, and that is that it takes a long time to turn around the ship of state. Eventually we will see reductions, but they are just not visible to us now.

Whichever of those is true, at least in the short run we can expect the Soviets to continue to pursue in the international arena an approach that they have long pursued, albeit somewhat modified. They will continue to be avoiding risks but at the same time taking opportunities as they are presented to them.

MILITARY MODERNIZATION

They will continue to do that under a nuclear umbrella which they will continue to modernize, and indeed nuclear investments in recent times have driven the increase in military investments overall, but at the same time pursuing what Garkov and others have called for, conventional improvements, particularly in the technological areas where they are concerned that the West is beginning to move out ahead of them; to produce both in the nuclear and the conventional area impressive capabilities that may intimidate and allow them to pursue their interests without having to use those forces, although in this environment masking the degree of intimidation and appearing to be more benign; and pursuing more so than before defense efficiencies to gain military effectiveness, per-

haps at less cost, within the context of reasonable efficiency, the definition of which is still somewhat in doubt.

REASONABLE SUFFICIENCY

Some would say it means unilateral cutbacks to a level that allows the Soviet Union to defend its interests, but the military and others in the Soviet Union would say reasonable sufficiency depending upon mutual reduction of forces to levels that can support the defensive interests of both sides, and there will be no unilateral reductions.

[Security deletion] that he would look for the pursuit of reasonable sufficiency within the context of arms control, in, for example, trading tanks on their side for dual capable aircraft on our side, dual capable aircraft which are one of the few remaining links between the nuclear and the conventional on the continent of Europe. Certainly a very worthy trade from their perspective.

QUALITY VERSUS QUANTITY

When asked about the importance of quality as compared to quantity and isn't the Soviet Union moving more toward emphasizing quality over quantity, would like to have quality, but particularly if I can also have greater numbers. I'd like to have both.

As long as Gorbachev is able to continue to pursue both, although at a lower rate of growth than in the past, with a promise that a stronger economy will eventually result that will allow a continued growth, whereas without that strong economy growth might deteriorate in years to come, the military will continue to support Gorbachev in his efforts, and that support is very important to him as he continues to be challenged internally on the political scene.

That concludes my statement. We are ready for questions, sir.

Senator PROXMIRE. Thank you very much.

ECONOMIC PERFORMANCE IN 1987

Director MacEachin, your figures show Soviet economic performance in 1987 was very poor. We would call it stagflation if U.S. GNP grew by only one-half of 1 percent and inflation increased by 3 to 4 percent. The official Soviet figures show somewhat better performance than your estimates. Do Soviet leaders acknowledge that there was virtually no growth last year?

Mr. ABBOTT. Senator, the official Soviet measure, which is national income produced, shows growth on the order of about 2 percent. By the Soviets' own measure this is the lowest rate of growth achieved since 1979.

Senator PROXMIRE. They show 2 percent compared to the one-half percent that you estimate.

Mr. ABBOTT. Yes. Their national income measure shows 2.3 percent. Our GNP estimate is about half a percent.

Senator PROXMIRE. Very often when we get estimates of these things they are accompanied by a range. In other words, there is unlikely to be an error by more than such and such. When you say one-half a percent, would that mean that it could be as high as 1 percent or as low as zero?

Mr. MACEACHIN. Let me answer both questions. I don't know of any public statement by a Soviet leader which has acknowledged how poor 1987 was, but the figures they have published for national income show it is their worst year.

The second question. It is not only a question of a range of uncertainty, Senator; I think that we have to take account of the fact that we get more data as the year goes along. So we quite likely will be adjusting these figures further.

What would you say the range would be, Mr. Abbott?

Mr. ABBOTT. I think the range that you had suggested, zero to 1 percent.

Senator PROXMIRE. It seems to me this is a very, very important statistic from every standpoint. Certainly in relationship to the military potentiality they have, and also from the standpoint of what it suggests about the success or failure of Gorbachev's regime.

AGRICULTURE

Mr. WHITEHOUSE. Senator Proxmire, if I might. You are right. It is an important figure, but we want to be sure to put it in context. Any single given year of performance is due to a great variety of factors. One factor last year that Mr. MacEachin didn't note in his talk but is spelled out in the report was the impact of weather early on in the year.

Senator PROXMIRE. Let me just interrupt on that. Supposing you took 1986 and 1987 and put them together. In 1986 you had good agricultural production and in 1987 it was not as good. In fact, you had a decline, as I understand it, in agricultural production. You had some variation in the nonagricultural sector. Supposing you averaged those two. Still it wouldn't be a very inspiring record, would it? It would certainly lag behind this country and behind other countries in the West by quite a bit.

Mr. MACEACHIN. Senator Proxmire, I agree with you. I think that we can quibble with the percentages and we can doctor this or that figure and we will get more data; we may adjust the figures somewhat. To give an example, I think at this time last year we were calculating 1986 as 4.2 percent. Subsequent data caused us to drop that down to just under 4 percent for GNP growth.

But, if you take 1986 and 1987 and measure them against the kinds of futures that were being described by Gorbachev, even if you measure them against any kind of indication that they have started down this path toward sustained growth, I think it has to be very disappointing.

As I mentioned, in 1986 if we took out agriculture, Gorbachev did not have a particularly good year even in 1986. It is true that agriculture dropped between 1986 and 1987, but if I look at where it dropped, what we really said is that it dropped from what was the best year.

I certainly agree with you that the implications of what might turn out to be zero growth, and which certainly is not going to be much more than 1 percent growth in GNP, coming off the early 1980's and the Brezhnev period of economic stagnation, has to be a very sobering experience for the Soviet leadership.

TIMING OF CIA ESTIMATE OF SOVIET GROWTH

Senator PROXMIRE. I have seen other reports by nongovernment specialists indicating Soviet performance in 1987 was not as good as in 1986 but none showed growth near zero except yours. Your assessment, therefore, I think is a very important one. Yet here it is April and we are hearing it for the first time. Why does it take 3 months or so into 1988 to learn what happened in the Soviet economy in 1987?

Mr. MACEACHIN. Sir, we might not have accurate data for another few months yet, frankly.

Mr. WHITEHOUSE. Actually, sir, we have available to us by the end of January the Soviet preliminary results of what happened in 1987. It takes another month for sufficient data to trickle in for us to be able to make preliminary estimates of gross national product. Once we do that we report those right away by the appropriate vehicles. While this subcommittee is hearing it for the first time today, others in the Government have heard it earlier.

For the next 6 months at least there will be refinements being made to the data by the Soviets themselves. There will be published later this month or early next month a short compendium of statistics which they call their mini statistical handbook. That gives a little more data than we have to date but not very much. By November of this year we will have the full-blown annual statistical compendium that has all the data which we use in reconstructing our industrial production indexes, our agricultural production indexes, and transportation, communications, what have you, to make up GNP.

Senator PROXMIRE. My question really relates to the fact that we are used to this. We are used to readjustments ourselves. We find that we have a preliminary estimate and then shortly after the period ends we get another one. Then we will get a revision. But it is not 3 months. It is not that long. Why do we have such a long lapse in this case? And then you tell us that isn't the end of it, that it will be 6 months more before we really know what happened in 1987 in the Soviet Union.

Mr. WHITEHOUSE. That's only because it takes the Soviets that long to figure it out themselves and to publish their data.

Senator PROXMIRE. Don't we have anything independent of what the Soviets want to tell us?

Mr. WHITEHOUSE. Not in the kinds of detail that we need. For instance, there is no source that gives us how many boxcars were produced during 1987 by type, which we need for our industrial production index, or how much steel of various kinds.

Senator PROXMIRE. I understand the Soviets have a monthly statistical report; every month thay make a report.

Mr. WHITEHOUSE. That's correct. That's on a monthly basis.

Senator PROXMIRE. I don't see why 3 months later we are still saying all we have is preliminary statistics and we can't be very confident of what we have.

Mr. MACEACHIN. Senator, these are not preliminary data. The preliminary data come out in January. We start working with those. It is true that the Soviets go through the same process as we

do in the United States, revising their own estimates of their own performance.

We have actually had these data for how long—a month, at least?

Mr. WHITEHOUSE. Oh, yes.

Mr. MACEACHIN. This report was drafted over a month ago. These data were in it. The hearing is being held today. If you had held the hearing a month ago we would have given you the same figures. What we have is a set of figures which will probably undergo some further refinement, but to describe them now as preliminary I think is a misrepresentation.

Senator PROXMIRE. Let me go into the next phase of this.

NO EVIDENCE OF IMPROVEMENT

General Horton, after 3 years of Gorbachev's rule it is hard to find evidence of improvement in the economy. Growth is down, industrial production is down, agriculture is down from last year although above what it was in 1984. Productivity is down; consumption is down. Were these poor results expected as part of the price of reform, or is the leadership disappointed? More important, is the politburo disappointed in the leadership?

General HORTON. I would echo Mr. MacEachin's comment that indeed they have been disappointed, but at the same time I think that they, Gorbachev in particular, have been changing their expectations as they have gone along.

We have seen Gorbachev change his prediction as to when things might turn around for the better as a result of his efforts, from a few years to 10 to 20 to a generation from now, if you will, having raised expectations to a very high level initially and beginning to try to lower those expectations at least in the near term so that those who had those increased expectations, in particular the consumer and the worker, will continue to support what he is doing, much of which in the near term works to their disadvantage: the reduction of vodka; the end of "I'll pretend to work if you'll pretend to pay me"; the possibility of increased prices, reduced wages; insecurity in one's position, the possibility of losing a job; enterprise going bankrupt.

Whether he can continue to push those expectations off and at the same time seek support in the near term for increased productivity that may cost before the benefits are seen remains to be seen.

Senator PROXMIRE. My time is up.

Congressman McMillan.

Representative MCMILLAN. Thank you, Senator.

I think I am correct that our latest revision on the U.S. gross national product came out early last month or in midmonth. Is that about right? And that was something we wanted to crow about.

Senator PROXMIRE. Especially if you're a Republican.

Representative MCMILLAN. I'm glad I'm not Gorbachev.

OUTLOOK FOR ECONOMY

I do think even 3 years is a short time in which to try to look at results in terms of total impact on the Soviet economy. Even in the

U.S. corporate world, if you have a sick situation in one given enterprise and someone undertakes to revise it, which involves restructuring, management restating corporate goals and objectives and producing results, 3 years is still a short timeframe within which to measure those results.

Given the magnitude of at least what on the surface appears to be the goals and objectives of Gorbachev, it is going to be an extremely slow process. Rather than what the aggregate figures on GNP may be, to me it is less important than the makeup of that GNP.

What signs do we see, if any, of any accelerating growth in some identifiable sectors of the Soviet economy that may be a result of some success in reallocating either financial or human resources? Take agriculture out of it, but look in the industrial sector. Are we able to dig into either their published figures or use other means of intelligence gathering to document shifts in priorities that would be good strong early signs that they were in fact making moves that were beginning to have an impact on the economy?

They may have had a decline in agriculture last year. If you are reallocating resources from quantitative production of military hardware into various sectors of the economy, you may well blunt overall economic growth at a time in which you may be accelerating growth in an important sector, which I think would be a significant sign.

My question really is, do we have the means, and if we do, are there any signs that this is taking place in any identifiable way?

Mr. MACEACHIN. Sir, I think you are exactly right in saying 3 years is a short time and therefore we have to look at the sectors and for particular areas of progress rather than just measuring it in terms of GNP, because as we have already seen, good weather can give you a false picture of progress and then bad weather may be a false picture of decline. So we do concentrate very heavily on looking at the machinery, civilian machine building area of the industrial economy.

NO EVIDENCE OF REALLOCATION FROM MILITARY

I am going to ask Mr. Whitehouse to give you some more detail, but I should comment on the issue of reallocation from the military. So far we have not seen any direct evidence that there has been significant reallocation. The most that we have seen is a great deal of pressure on the military to do better with what they are getting. For a Soviet military that was accustomed for years to very rapid rates of growth to be told that it is going to have to do better with what it is getting, that it is not going to grow as fast, has been something which has definitely caused some restiveness in the military ranks. [Security deletion.]

I reemphasize that so far while the growth in military procurement and military investment has been much slower than in the heyday of the Brezhnev buildup, Soviet defense spending has continued to increase.

VERY LOW ECONOMIC GROWTH

Mr. WHITEHOUSE. I think you hit on another point that is very important, and that is that we are seeing very low growth, and in fact that should be a good sign. If you are retooling and modernizing your economy you cannot, as we have said on several occasions, expect to maintain high rates of growth in output, because you have to shut down production lines in order to retool.

The inconsistency in Gorbachev's approach has been to push both simultaneously, acceleration and retooling. Even he recognizes now that both cannot occur simultaneously.

A variety of economists and others within the leading circles have indicated that the transition period, this period of considerable disruption and disarray, is going to continue through the 13th 5-year plan. So now you have a situation where the Soviets themselves recognize that instead of being able to get their act together, so to speak, and implement their reform and modernization program during the 5-year period 1986 to 1990 it is really going to take them a 10-year period, from 1986 to 1995, and in point of fact it may take longer.

But at least they recognize that it is going to take that long, in part because some of their programs aren't even in place yet and some of the key things they have to do they haven't done and may not ever do, such as the price reform.

But to address the issue of will we see resource reallocation within the civilian industrial sector, I think yes, and we can look at a very good example in the energy sector.

ENERGY SECTOR

You recall that in 1984 and 1985 oil production was dropping. In 1986 it went back up; in 1987 it has gone up a little bit again, specifically because of an enormous effort to put investment resources into oil production coming out of west Siberia. Investment in the oil sector has surged dramatically over the past 2 or 3 years and will have to continue to do so if they want to avoid a stabilization and then decline in production.

The irony is that they have to do that at the same time as they have to modernize all their other industrial capital, or a lot of their other industrial capital.

The point is that there are terrific strains on investment resources and we do see changes, we will see changes as they occur, but the lag, as Mr. MacEachin pointed out, from the time the order is given to do something until we actually see it on the civilian side would be no more than a year. If they are taking resources out of the military and giving them to the civilian side, then it may take longer to show up. [Security deletion.]

ARMS CONTROL

Representative MCMILLAN. I suppose if we are optimistic changes in behavior with respect to nuclear arms negotiation, or maybe hopefully beyond that some progress in conventional arms reduction, are things that he basically has to deal with as a prerequisite to building any kind of momentum if you assume that is what he is trying to do to reallocate those resources.

Mr. WHITEHOUSE. Part of that, sir, is also to foster the kind of benign international atmosphere that will allow him to say to his military, look, the threat isn't that great out there, things are going along smoothly with our competitors so to speak, and we are engaging more in trade, we're engaging more in cultural exchanges; we don't see a big threat. So let's ease off and concentrate on modernization. That is one motivation.

Mr. MACEACHIN. Clearly he undertook an active arms control agenda from the outset of his tenure. Arms control is part of a larger foreign policy picture which clearly has been more creative than in the past. He is attempting to manage through more political means security interests which if he can't manage politically he will have to deal with them in ways that impact on his economic program. No question about that.

The initial arms control thrusts have not been the kind that will have major impact quantitatively on resources. Nonetheless, they will have two effects. They will, as Mr. Whitehouse said, strengthen his hand in the overall issue of resource allocation with the military.

Second, I think we should not underestimate that in certain specific sectors, as you said Congressman McMillan, there are certain specific areas in which growth, even though it doesn't show up as very large on the total GNP measure, is critically important to any industrial modernization program, and arms control figures heavily in this.

When we move to the area in which there are actually more resources at stake, which I think would be in the area of conventional arms control, because it is the general purpose forces which soak up the largest chunk of the military procurement bill, to move into there would, on the one hand, offer the greatest resource benefits, but, on the other hand, I think this is the one which is going to be the most difficult politically for Gorbachev to manage, and I think that we will have to wait and see how things progress on that front. It is a far more complicated political issue for him, because he can't deal just bilaterally with the United States.

Representative MCMILLAN. Thank you. I think my time is up, Mr. Chairman.

Senator PROXMIRE. I am going to go to the floor in just a couple of minutes, so I will yield back time to you then.

I am going to go off the beam a little bit and ask you some questions that just occurred to me as you were talking. If the Soviet nuclear deterrent is credible and the United States nuclear deterrent is credible, then as our leader, the President of the United States has said, a war cannot be won between the superpowers. The assumption is that rather than lose that the losing force would at least use their nuclear force at the end one way or another and then we would both be gone.

The scientists tell us that if 1 percent of the Soviet nuclear arsenal strikes this country there would be between 35 million and 55 million dead Americans. And Gorbachev has said the same thing, and I think he is right, there must be a feeling in the Soviet Union as there is by many people in this country that much of our military is a colossal waste. We are not going to fight a superpower

war. Much of our military is for that purpose. Not all of it by any means.

Nevertheless, with that in mind, wouldn't both countries benefit greatly from a meticulously verifiable agreement for, say, a 25-percent cut or a 50-percent cut in conventional weapons on both sides tailored after the agreement with the INF where the Soviet Union would have to make a much bigger reduction than we would? They have far more planes and tanks and personnel in the Warsaw Pact than we have in NATO. Would that be in the enormous interest of the Soviet Union and in the interest of the United States if that could happen? And would the Soviet Union under those circumstances be able to take advantage of that, in your judgment, to greatly improve their industrial production as I am sure we could take advantage and do something about our appalling deficit?

CONVENTIONAL REDUCTIONS

Mr. MACEACHIN. Senator, I would like to start with the last point. I think there is no question that if the Soviets could undertake a 50-percent cut in their conventional forces, which are immense, that this would free up some resources which they need badly to modernize their economy. This is kind of a complicated question. I will go back to the beginning. I am going to invite General Horton to go into this dangerous territory as well.

NUCLEAR BALANCE

First of all, the nuclear standoff is one which the President has identified, which Gorbachev has identified. I am sure there will be differences of view on this, but I think in contrast to the past Soviet public statements in this regard that even the Soviet military planners see the present nuclear balance as one in which a nuclear war can't be won. It is one they see, however, as deterring the United States. I believe the Soviet military leaders see their own military power as blunting any potential nuclear attack by the United States.

Paradoxically there are some in the Soviet and there are some military theorists elsewhere in the world who say that what has been accomplished is that the world has been made safe for conventional war again because neither side dare introduce its nuclear weapons. First of all, because of the difficulty of controlling escalation, and then if the conflict does escalate to global nuclear exchange, no one will win.

Senator PROXMIRE. Let me just interrupt at that point to say that because of the nature of nuclear weapons you don't start off with a strategic attack. But if we are under fire in Europe and the Soviet Union is making some advances, we are certainly going to use tactical nuclear weapons.

Once you start down that path—and I think we would rather than lose it, and if we didn't, I think that the French would. Maybe the United Kingdom would. They have tactical nukes too. Once you start down that path I don't know where you end except with an utter catastrophe.

It would seem to me that somebody as wise as Gorbachev seems to be should recognize what President Reagan has stated, that war

doesn't make a damn bit of sense. It hasn't made sense perhaps often in the past, but this time it really doesn't make sense. It's suicide.

Mr. MACEACHIN. My own personal views on that may be reasonably close to yours, Senator. The Soviet military leadership has argued on the basis of the strategic nuclear standoff that the prospects of escalation serve as a deterrent to the introduction of any nuclear weapons even at the tactical level.

They still can't get around the fact that NATO declares it will use nuclear weapons and a Soviet leader, a senior military officer, cannot very well write a piece for his own military that says my enemy will really not carry out his policy. But some Soviet military strategists say that the chances of a war remaining at the conventional level are much greater today than they had thought earlier, and they have used this as a basis for arguing that more resources, not less, should go into the military specifically for the development of high technology nonnuclear weapons.

Senator PROXMIRE. Do you think the French or British would take the kind of pasting that today's conventional power is that 45 years have advanced since the last war? At the end of the war the destruction in Dresden and Hamburg was worse than it was at Nagasaki and Hiroshima. Just using conventional weapons. Utter devastation. At that point it seems to me it would be very hard to resist on either side using the nuclear weapons and trying to strike some kind of a decisive blow.

SOVIET VIEW OF NUCLEAR DETERRENCE

Mr. MACEACHIN. To turn that around, there are people in the Soviet Union writing on this issue—in one case the academicians who wrote their article for their own institute journal later had a similar article appear in the party journal Kommunist, which gave it more authority—in which they argued much along the lines that you are arguing. So far they seem to be in a minority, but at least someone in a fairly senior political level wants what they are saying to be said in the party journal.

Senator PROXMIRE. Will you submit that article to us?

Mr. MACEACHIN. Yes, sir.

Senator PROXMIRE. General Horton, I am going to leave in about 30 seconds. See what you can tell us in a minute or two.

General HORTON. I agree with much of what Mr. MacEachin said. Certainly the Soviet Union is interested in pursuing its objectives without having to resort to the use of force. If they can avoid doing so they will. Nuclear and conventional forces are important to them, however, in even their peacetime pursuit of their objectives.

Just to illustrate, [security deletion].

Senator PROXMIRE. General, I am going to have to run. I will be back in about 10 minutes. Congressman McMillan will preside while I am gone.

Representative MCMILLAN [presiding]. Let me just pursue that. Go ahead and proceed.

General HORTON. Just to amplify that, that is, we would like to have forces at the nuclear and conventional level that would pre-

vent you from engaging in adventurism. Read that to mean prevent you from reacting to those things that we would like to do in the international system so the crisis don't arise in the first place, because of your fear that if a crisis should arise and you try to stop us, that that might in turn lead to conflict.

They feel that if conflict occurs it is most likely to occur at the conventional level more so than in the past. The conventional phase may last longer than in the past.

NUCLEAR SCENARIOS

The possibility of not going to the nuclear level is greater than in the past. At the same time, because of our doctrine, if they were to succeed, we might use nuclear weapons. They have to be prepared for that. And indeed they are now also thinking that given the improvements that have been made on the NATO side, which they tend to give great credence to, that there is a possibility that initially they might be on the defensive phase.

If they were to fail, although they don't talk about this, in their defense before they can shift over to the preferred offensive, that indeed they might be those who are put in the position of having to use nuclear weapons.

Even though it is most likely that neither side would use them, there is still that possibility. And if it is a possibility, then it is the responsibility of the military if not contradicted by their political leadership to assure that even if victory per se is now questionable, one does the best one can to approximate that and to hurry out a nuclear phase in a way that would lead the Soviet Union, literally speaking, to the West in a better position and a position to reconstitute itself in the postwar world.

As a consequence, while there may be a shift in expectations, it is to see change, and the nature of that shift is such that we wouldn't really expect to see a great change in the emphasis on nuclear weapons in terms of continued modernization and continued deployments, albeit held in some degree of check through arms control and allowing the redistribution of resources to other areas.

We would expect to see a greater emphasis on expenditures on new technologies on the conventional side, expecting that that would be their greater concern. Indeed, that is the direction they seem to be going.

SPENDING FOR NUCLEAR WEAPONS

Representative McMILLAN. Probing that a little bit further, would you say that the proportion the Soviets spend on nuclear weapons is somewhat in the same proportion that we do relative to the total defense budget?

General HORTON. If you add in strategic defense as well as strategic offense, of course it would be a higher percentage despite the size of their general purpose forces. The enormous expenditures on strategic defense are approximately the same as what they spend on offensive forces.

Representative McMILLAN. You would put that at approximately what level relative to our $4.1 billion or whatever it is on strategic defense?

General HORTON. Rather than my trying to give you a figure which I may not have, let me ask one of my colleagues.

Mr. MACEACHIN. First, we can't make a direct comparison, sir. I presume you are talking about the SDI. What General Horton referred to in terms of strategic defense included everything from the Moscow ABM system up to all the fighters and interceptors and radars. So they are not directly comparable figures.

Representative MCMILLAN. I am not so interested in pursuing that. It may be an interesting sidelight. I guess what I am trying to get at is the magnitude from their perception. If they are in fact looking at military expenditures as a possible option for reallocation of resources, how important then is their commitment to strategic nuclear weapons or nuclear weapons generally in that equation relative to other commitments, such as conventional weapons and so forth? That is really what I am trying to get at.

Mr. MACEACHIN. I can give you some dollar figures if you just want to look at the relationship.

General HORTON. While they are checking the numbers, one might speak to the question of overhead. If one cuts back, one still has plants in existence and work force in existence.

CONVERSION OF MILITARY RESOURCES

Second, there is the question of the substitutability: Are those kinds that are working today and producing strategic nuclear forces easily or readily convertible or are the work forces easily transferable to other pursuits?

Of course some of those defense plants are also producing for the civilian economy, but that part of the production line that is producing the missiles themselves as compared to the TEL's, which may be comparable to trucks and more readily converted, can they be readily converted to other purposes? Probably not. So you may not see that much savings.

General purpose forces, on the other hand, to the extent that one might be able to cut back on production, some of those items being produced are perhaps more readily transferable to civilian pursuits.

BREAKDOWN OF DEFENSE BUDGET

Mr. ABBOTT. Congressman, in our estimates of Soviet defense spending in rubles, the way the Soviets would look at it themselves, we can break down about 60 or 65 percent which we can allocate to missions. The remainder would be spending for RDT&E for the forces as a whole, and generalized command and support—centralized costs which we could not allocate accurately to specific missions.

Of that 65 percent which we can allocate, nearly two-thirds would go for general purpose forces. So in many respects the amount that is going to strategic forces does not loom as large, as Mr. MacEachin said. It is for that reason that they would see general purpose forces as the area of potentially greater savings.

The highly specialized and advanced nature of many of the resources committed to strategic programs, however, makes them considerably more burdensome in all likelihood than that crude

quantitative calculation would suggest. Looking at manpower, for instance. The kind of troops that are allocated to the strategic rocket force are among the most highly trained available to the Soviet military, or potentially to the Soviet economy.

Were we able to give a more precise accounting of where the expenditures for research and development are concerned, I think the picture might be somewhat different. There we would expect, perhaps, a larger share of the R&D effort going to the strategic sphere. Given the concern that the Soviets have expressed with the lagging state of their technology and the importance that scientific advance plays in Gorbachev's strategy, we would think this would be an area of great concern to them.

UNILATERAL ARMS REDUCTIONS UNLIKELY

General HORTON. Perhaps an underlying question that one needs to address as well is would they be prepared to do these things if they thought they could make savings and reinvest in the overall economy unilaterally, or would they only do them if it was possible to do them bilaterally; that is, through arms control and through a changed environment of détente reduce the need as perceived by the political leadership and as perceived by the military with whom the political leadership has to deal to continue to grow at past rates of growth? We would argue that unilateral reversal, reductions, transfers would be highly unlikely, particularly while the prospect for bilateral reductions still is a prospect, and that certainly is a prospect now, of course.

Representative MCMILLAN. I think that creates a climate in which that is more likely to occur, but I would suspect without going into it that if the Soviets move from essentially an offensive to a defensive policy militarily, and I am assuming that they basically have an offensive policy, they have a margin of taking certain unilateral actions that could amount to a significant reallocation of resources.

NO EVIDENCE OF SHIFT TO DEFENSIVE POLICY

General HORTON. That is why we see no evidence, however, that they have shifted to a defensive policy. There is certainly more emphasis on the need to be able to successfully defend at the conventional level than before because of their perceptions of the impact of technological modernization on the NATO side. They have always emphasized, as you have already noted, the strategic side, the importance of defense. At the same time the military structure continues to emphasize the need to be able to preempt if possible a shift to the offensive phase as soon as possible, because that is the decisive phase. One cannot win a conflict even if one doesn't start it without having a very robust offensive capability.

BURDEN OF FOREIGN COMMITMENTS

Representative MCMILLAN. Let me shift over to another potential resource. I don't know the magnitude of it. Perhaps you do. That would be the degree to which their nonmilitary foreign commitments also represent an economic burden on the Soviet Union. Afghanistan is a significant change in policy. It apparently is the re-

moval of military assistance. What it means in terms of other forms of assistance perhaps remains to be seen; to Cuba, Central America, et cetera.

In the aggregate, do we have a good estimate of what kind of commitment that is and what some modification of their policy on that score could mean in terms of reallocation of resources?

Mr. MACEACHIN. We actually have some figures. I don't know if we have them with us, but we do have some estimates of that.

In the case of Afghanistan, we have to get a net figure. We can't just calculate everything in terms of Soviet forces committed in Afghanistan as a total addition. Some of that would be in the force even if it were not in Afghanistan fighting the war. We do have an estimate of that, and if we don't have it with us, we can get it. My recollection is it was about 2 to 3 percent of their procurement and operation and maintenance costs for the year.

One can say, well, it is not a great savings, but 2 to 3 percent that they don't spend every year will bring their total military spending down closer to the flat level.

In other areas, in cases like Central America, I think in this case where they are getting off rather cheap. It is not a heavy economic burden to them.

So it does vary. We do have some estimates.

Representative MCMILLAN. Their burden in Cuba, on the other hand, is not insignificant.

Mr. MACEACHIN. Cuba is a political burden as well, sir, frankly. Soviet and Cuban political interests don't always match up, contrary to popular belief. There were many times that I think the Soviets would like to contain some of the Cuban actions.

UNILATERAL ARMS REDUCTIONS

One other subject you mentioned earlier. It is interesting that the discussion we have had on defense and the possibility of unilateral reductions is an issue of debate in the Soviet Union today. The people pressing for this do seem to be in the minority, but they are being given a voice. The highest ranking military officers who have accepted the idea of constraint on growth, people like Yazov, the defense minister, Akhromeyev, the chief of the general staff, these people have nonetheless taken sharp exception to the suggestion that there can be unilateral reduction, something other than a bilateral mutual reduction.

COST AVOIDANCE AS OPPOSED TO COST REDUCTIONS

General HORTON. If I could just jump in with an elaboration on one aspect. The thrust, it seems to us, of what the Soviets are doing right now is more cost avoidance in the military as opposed to cost reductions, avoiding the demand that an SDI system might place upon them to increase at a much more rapid rate, a race that they are afraid they might lose because of their great respect for Western technology.

Their involvement in the rest of the world might also be characterized as a cost avoidance as much as a cost reduction. They would resist further increases in terms of assistance to Cuba and involvements like Afghanistan, et cetera, as opposed to necessarily cutting

those all back. Again, the savings would not be that great, in any event.

AFGHANISTAN

Mr. MACEACHIN. There is a measure of some of these activities, particularly Afghanistan. The total cost to the Soviet Union of their military adventure in Afghanistan went well beyond the cost of the material and resources that were spent in the country. They paid an immense political price for this. Consequently the benefits to them from a withdrawal will be immediately the cost savings in terms of economic material costs, but those benefits will go beyond that, and they will certainly seek to capitalize on whatever political gains they might achieve from this.

General HORTON. I think that is the most important cost and the most important potential benefit.

Mr. MACEACHIN. That is what we said when they went in. [Security deletion.]

It is clear that they recognize that the gains in Europe and South Asian regions from this withdrawal, or at least the potential political gains, are sizable. I think that together with the recognition that the issue was not whether they could win but how could they minimize their losses getting out is the process that finally brought this thing to a conclusion.

General HORTON. Making a virtue of necessity, in a sense.

NEED FOR HARD CURRENCY

Representative MCMILLAN. Let me shift back to the domestic side. One of the initial questions I asked was some evidence of a change in the domestic side within that GNP figure that would give a signal. You mentioned efforts to increase petroleum production. It seems to me one of the dilemmas the Soviet Union is faced with if it is not successful in reducing its military commitments as one resource there is no room to squeeze the consumer. In fact, the contrary is probably one of the problems that they are faced with. Then what have they got?

If they are going to take advantage of Western or Far Eastern technology to help them solve some of their problems, they are going to have to have something to pay for it with. They can't operate on credit like we do. Not to the extent that we get away with. They are going to have to export something. It seems to me they are going to have to devote resources to something that is available in the world market.

What do you see as their options in that respect? Is petroleum a major one? Could that be a reason why they are putting emphasis on petroleum production?

Mr. WHITEHOUSE. Petroleum has been, is, and will continue to be for some time the major factor in Soviet hard currency earnings, and therefore the source of their ability to make purchases in the West.

WESTERN CREDIT

However, we must not underestimate the Soviet ability should they opt to borrow more heavily. The Soviet creditworthiness is

outstanding among Western bankers. Remember, the Soviets have a great deal of gold in reserve; they have a debt service ratio that currently stands at only 26 percent—in spite of increased borrowing in the last 3 years—and that figure is as much a figment of exchange rate movements as of real borrowing. I say only 26 percent given what some of the real debtor nations have to cope with in terms of debt service ratios.

The point is that Western bankers are more than willing to lend to the Soviets. What constrains the Soviets from borrowing more from the West is their own conservative attitude toward indebtedness. This has been displayed by Gorbachev and by his predecessors.

It may change, but it isn't going to change drastically. It will change marginally. I think he will opt for more imports from the West both for consumer goods and for some key industrial sectors, even though he will continue to pursue the program of indigenous development of technology rather than rely solely on the West.

But there are some areas where they need to import. Energy is one of them. One of the important things that they need to do over the course of the next few years, for example, is to develop a major program of energy, specifically oil, conservation.

BREAKTHROUGH IN OIL REFINING

The reason they need to do that is because they have made a technological breakthrough in refining. They have developed their own catalytic cracking capability, which means that they can now get a larger share of the crude oil barrel converted into light products, gasoline, diesel fuel and the like, with their own cracking capacity. But in order to do so they must use less heavy fuel oil. Otherwise they have to keep producing more and more petroleum at a very high cost, and the potential gains from having developed catalytic cracking will be lost.

MARGINAL SHIFTS OF RESOURCES

I guess the point of all this, Congressman McMillan, is that the Soviets are working at margins, and margins are becoming more and more important. That is to say, marginal shifts in investment. What we consider to be marginal outlays of hard currency for things like Cuba, Angola, et cetera, those are looming much larger now as drains, because hard currency is squeezed and total investment is squeezed.

What we consider to be marginal contributions from the defense sector to the civilian economy are potentially becoming more important. For instance, General Horton's characterization of the strategic missile provides a good example. You can't just convert a strategic missile into something effective in the civilian economy. But they could reap marginal improvements in some civilian sectors from electronics and other advanced components that go into making a modern strategic missile, if those basic resources were devoted to some other activity. It is not going to be a large gain and it is not going to happen quickly, but over time it could help.

Representative McMILLAN. I think you make a good point. We tend to look at things in financial terms, but probably of equal im-

portance is the reallocation of scarce human resources or scarce skill levels. That would be another important side.

Mr. MACEACHIN. In a country in which these skills are, in relative terms, more scarce than they are in most of the West and some of the applied technology is more scarce, the absence of a requirement to retool a missile plant to produce its successor would not show up as a big item in a GNP measure, but it could be extremely important to an industrial modernization program.

JOINT VENTURES

General HORTON. With regard to your question, Congressman McMillan, another area that the joint report we submitted to you speaks to is the issue of the joint projects with the West, but at the same time the report goes on to say that it hasn't panned out and is not expected to pan out as much of a factor as they had hoped, although at the margin it may still be important inasmuch as the barriers that are put up by the Soviet Union to doing that quickly and efficiently with a quick return are such that it doesn't make it very attractive. There are different objectives on the part of those who are looking at such projects: the West, that is, opening up the Soviet market and the Soviet Union which is looking to develop a capability to ultimately compete with the West in the world market, and the Western potential coproducers are not particularly interested in creating another competitor.

INF TREATY

Mr. MACEACHIN. One last gain, sir. The INF treaty gives the following benefits:

First, the manpower and the resources that were devoted to those missile systems are now free. Generally speaking, the defense minister said they would be reallocated to other military uses. At some point that frees up a demand for wherever they are going to be reallocated. The plants do not have to be retooled to produce a follow-on missile system. Consumables for these forces do not have to be produced.

The one cost savings which people have not taken into account is what the impact is of this on the European population which is being asked to provide support to parliamentary defense budget measures and what the impact is in what the Soviets have to contend with in the way of a NATO alliance committed to its own defense; what the benefit is in terms of opening up opportunities, political and economic, for the Soviets in a European body politic which is now convinced that you have a new Soviet Union.

So when you measure the total costs and gains from this kind of foreign policy move, they go beyond just the material resources immediately involved.

Senator PROXMIRE [presiding]. You obviously asked a very provocative question.

Let me follow up in a little different way.

SOVIET FOREIGN DEBT

How about the Soviet Union's lack of debt? Congressman McMillan got into that to some extent. The big problem, it seems to me,

for our economy is the enormous debt we have. I am not talking about just the national debt; I'm talking about the household debt and the enormous business debt. The national debt is $2.6 trillion; the household debt is $3 trillion; the business debt, nonfinancial corporations, is $3.6 trillion. Of course we have a bigger gross national product now. Even in relationship to that and in relationship to such things as earnings, the business debt was $2.85 for every dollar of earnings back in 1955; today it is $9. With that enormous leveraging and great vulnerability come recessions. Of course household debt is going up at a time when savings are going down.

We are living beyond our means. There is no question about it. My question to you experts on the Soviet Union is, is there anything in the Soviet Union that is similar to that? Just the Federal Government is spending 14 percent of our trillion dollar budget on net interest, and it is going up very sharply. Is the Soviet Union doing anything of this kind?

Mr. MACEACHIN. In fact, the policy that Mr. Whitehouse described of debt avoidance is not just pure conservatism. There is a conscious effort to avoid creating a vulnerability to the West.

Senator PROXMIRE. If that is the case, it seems to me that this is something we ought to be aware of. We have enormous advantages over the Soviet Union in technology and productivity, even in the number of people in NATO compared to the Warsaw Pact. As I say, we are consuming more than we are producing, and I think that is a mistake.

Mr. WHITEHOUSE. I can't comment on whether it is a mistake or not from our perspective. As far as the Soviets are concerned, it may or may not be comforting to learn that the Soviet Union too has a budget deficit.

Senator PROXMIRE. Not like ours.

Mr. WHITEHOUSE. As a matter of fact, sir, we are doing research, which is very preliminary and incomplete at this time, but there is enough evidence to suggest that the Soviet Union's budget deficit is much larger than ours. However, up until now it hasn't made a whole lot of difference, because they have never relied on financial indicators for anything.

Senator PROXMIRE. Wait a minute. Let me interrupt at that point. You say their budget debt is bigger than ours. To whom do they owe the debt? We owe the debt increasingly to foreign countries, although we owe much of it to ourselves as far as the national debt is concerned.

Mr. WHITEHOUSE. They owe it to themselves. It is not a foreign debt.

Senator PROXMIRE. With a Communist system, with the government owning everything, what is the significance of that?

Mr. WHITEHOUSE. The significance is in the Gorbachev reforms when and if they go to a more market-oriented price system. Even today as they are trying to sustain self-financing, for instance, among enterprises, operating enterprises are supposed to make a profit, and that profit is supposed to be used to pay the wage bill, a large chunk of the enterprise's investment, and a whole variety of other costs.

What is happening is that the enterprises are not able to meet their wage bill and are having to float short-term loans from the

banking system. There is considerable disarray going on because of this.

The self-financing has just been implemented.

Senator PROXMIRE. It seems to me it is very hard to assess until you get some hard numbers. What is their debt to their financial system?

Mr. WHITEHOUSE. Proportionally, their budget deficit is nearly twice the size of ours.

Senator PROXMIRE. Twice the size of ours? You are talking about it not in absolute terms? You are talking about it in relationship to their gross national product or some other label?

Mr. WHITEHOUSE. I am talking about the deficit in relation to GNP.

Let me explain a couple of things that causes this to happen.

DECLINING GOVERNMENT RESERVES AND INCREASED SUBSIDIES

Gorbachev's own policies have exacerbated this situation. It has existed for a long time, but his policies have exacerbated it. For one thing, much of the consumer goods and services that the Soviets produce and sell and those that they buy from abroad are very heavily taxed, extremely heavily taxed. Those heavy taxes make up a large chunk of Soviet budget revenues. They have cut back on the import of consumer goods over the past few years that they levy these heavy taxes on when they resell them domestically. So that has squeezed their budget revenues.

By the same token, they have raised the production and distribution of products which have to be subsidized. The subsidy bill for things like meat and milk domestically has gone way up. This is causing them to spend more; they are reducing their revenue; and the budget deficit is growing.

Gorbachev himself has talked about this.

Senator PROXMIRE. Obviously when they stop drinking vodka and have imposed a big tax on vodka, their revenues from vodka sales decline.

Mr. WHITEHOUSE. In fact, they declined by 37 billion rubles.

Senator PROXMIRE. Still, it seems to me that unless you have hard figures it is very, very hard to make a comparison. You have to have the figures. The general impression I got from your answers to Congressman McMillan was that the Soviet Union has followed a conservative debt policy and credit policy.

FOREIGN DEBT AND EXCHANGE RATES

Mr. WHITEHOUSE. There is a very great distinction between domestic debt here and foreign debt. The foreign debt, while it has grown in the past 3 years, about two-thirds to three-fourths of it is the result of exchange rate fluctuations. In other words, the devaluation of the dollar.

Senator PROXMIRE. I would like to explore that paradox, the apparent large increase in Soviet hard currency debt during a period of declining hard currency trade. Table 7 in the joint report shows the Soviet hard currency balance of payments. In the past 3 years there have been substantial increases in Soviet gross debt. For ex-

ample, there was a $5 billion increase in 1987 but $3.5 billion of that increase was due to exchange rate effects.

Can you explain the significance of the exchange rate factor in estimating Soviet hard currency debt?

Mr. WHITEHOUSE. If you look at the pattern over the last 3 years of changes in gross debt, in 1985 it went up by almost $7 billion; in 1986, by another $7 billion; and in 1987, by $5 billion. Of that, in each year about $4 billion was due to exchange rate changes. The real new borrowing was roughly $3 billion in each of 1985 and 1986 and dropped to about $1 billion in 1987.

The point is that roughly three-quarters of their new indebtedness over the past 3 years has been the result of exchange rate changes.

Senator PROXMIRE. If we look at table 9, you can see what has happened to Soviet hard currency debt to the West. It has risen substantially since 1984, when it was $10.7 billion, to $26.7 billion in 1987. Soviet assets in Western banks increased by a relatively modest amount in that period, but this is also the period when the dollar plummeted.

My question is, How much of the increase in net debt was due to the foreign exchange factor?

Mr. WHITEHOUSE. It would be the same amount. The $4 billion exchange rate impact, for instance, in 1987 is the impact on total debt.

Senator PROXMIRE. What would it be today if you took out the foreign exchange factor for the last 3 years?

Mr. WHITEHOUSE. It would have gone from about $11 billion in 1985 to $17 billion in 1986, and it would have gone to $18 billion in 1987, roughly. Those are rough figures. It would not have increased to the extent that it had. It would still have increased some.

Senator PROXMIRE. Do you expect the Soviet net hard currency borrowing exclusive of the exchange rate factor to increase in the next few years? And if so, by how much?

Mr. MACEACHIN. If it is going to increase, it will be in connection with a policy decision, I think. One of the areas which I mentioned for them to turn to is the international market. They could turn to this for high-technology equipment, industrial equipment.

Another thing they might do, rather than turning to foreign markets for industrial technology would be to turn to foreign markets for consumer goods. That would enable them to give some kind of benefit to the consumer without having to draw off their own internal investment funds.

These kinds of things could take place. My best guess is that we will see some increase.

Senator PROXMIRE. I take it there is no evidence they have done that yet, that it hasn't increased.

Mr. MACEACHIN. Not beyond the figures we have here.

To answer your question, personally I look for some increase.

WESTERN TECHNOLOGY

Senator PROXMIRE. General Horton, there has been much discussion in the West of the Soviet's need for Western technology. I have been shocked, as many people have been, about the Toshiba

situation. I was a principal cosponsor of Senator Garn's amendment in that connection, because I think it was a terrible, terrible action.

Yet as the statement points out, Soviet imports of Western machinery and equipment have been declining. Is there a tendency to exaggerate the importance of Western technology imports to the Soviet Union or the willingness of the Soviets to use scarce hard currency reserves for their purchase?

General HORTON. I don't think so, Senator, although it is certainly possible to exaggerate. Looking at a series of 20 technologies, as I recall the figure, it is 15 that we lead in and 5 in which the Soviets may lead. They certainly look to the West in those in which they are behind.

Senator PROXMIRE. You are talking about the principal military technologies?

General HORTON. Correct.

In those in which they are behind either by legal or illegal means it is much cheaper and much more rapid to gain those technologies from the West than to try to develop them themselves. At the same time they recognize that ultimately they have to develop their own capacity to develop future technologies if they are going to surpass the West.

Senator PROXMIRE. I am aware of that military comparison. What I am concerned about in this question is the nonmilitary technology overall. I haven't seen any figures on that. I presume that our technology is superior in the nonmilitary area because they stress military more than we do perhaps and because we are so far ahead in the military technology; is that right?

General HORTON. There certainly are some very important areas that affect both the military and the nonmilitary, such as computer technology, microminiaturized chip technology, and so on, that affect our consumer goods as well as our military capabilities. There is no question about it.

Senator PROXMIRE. Let me ask Mr. Kaufman to ask a question here. He is very interested in pursuing this.

DECLINE IN IMPORTS OF WESTERN TECHNOLOGY

Mr. KAUFMAN. General, how do you reconcile the fact that Soviet imports of Western technology in the form of manufactured products and equipment have been declining over the last 8 years at least, including since 1984 when Gorbachev took over, with the high importance that the Soviets place on Western technology?

General HORTON. The shift has been from buying goods themselves to if possible buying turnkey plants to produce those goods, recognizing that their great difficulty has been not so much being able to develop their own science or to recognize within others how the science works, but rather to have the capability to replicate that in a mass produced way when very high-technology production methods as well as very high-technology products are involved. You may see a decline in imported final finished goods, but I think we see an increase in the extent to which they are looking for help from the West in terms of production technologies to allow them to produce those things themselves.

Mr. KAUFMAN. What figures are those? We have looked at the figures for overall trade with the West, for purchases of manufactured goods and equipment. We see the lack of progress in the joint venture area. What figures are there to show that there has been an increase in purchases of turnkey plants or the like?

Mr. WEINSTEIN. I think Mr. Kaufman is correct. The general trend has been downward. I think that is part of the Soviet's decision to try to develop as much domestically as they can and not be dependent on the West. For example, they got themselves so dependent on the West in their chemical industry in the 1960's. They have taken great steps to avoid that. I think one of the many dilemmas Gorbachev now has is the need to improve the level of technology needed for growth. We have seen a great deal of very selective spending of hard currency in the West. I suspect the problem is going to become even more severe as they find that they are not getting the kind of benefits from joint ventures that they had hoped to.

LABOR UNREST

Senator PROXMIRE. Director MacEachin, you say that the real loser in 1987 in the Soviet Union was the consumer who has seen almost no increase in the standard of living since 1985. You also cite instances of work stoppages and labor unrest. There has been very little improvement in the standard of living for the past 10 years or so, and the CIA has frequently cited signs of labor unrest in that period. Are you reporting the usual slow growth of consumption and the usual scattered instances of labor problems? Or is something qualitatively different occurring?

Mr. MACEACHIN. My first statement in that regard, Senator, is that in the days of glasnost we are never exactly certain whether something is happening more or we are just hearing more about something that has been happening. In this case I think it is a little of both, that we are seeing somewhat more exercise on the part of the work force of, for example, work stoppages, because they are taking advantage of what they see as a policy which permits this, but I also think that we are seeing those instances that do take place get more publicity and we are aware of them more quickly.

We have some tenuous evidence that recognition of this undercurrent of discontent in the work force and the consumer's recognition that he has been shortchanged and the tensions that this has brought about has caused some greater emphasis on the consumer sector for 1988 than was the case in 1986 and 1987.

Also, I think combining the question of the consumer with the question you had on machinery imports has led some students of the Soviet Union to postulate that if they do go into the foreign market in a very large way they will seek to reconcile the competing desire to develop their own industrial technology and at the same time give something to the consumer.

Senator PROXMIRE. But you can't tell us as a matter of fact there is more labor unrest today and more consumer dissatisfaction today than there was 5 or 10 years ago, or can you?

Mr. MACEACHIN. I will say with confidence I think it is being demonstrated more freely today. I can't necessarily say that those who are demonstrating and undergoing stoppages today might not have done so earlier if the policy had seemed more willing to accept that.

ANTIALCOHOL CAMPAIGN

Senator PROXMIRE. Yesterday's Washington Post reported that a Soviet economist, Nikolai Shmelyev, writes in the current issue of a Soviet journal that the antialcohol campaign has failed and the resistance to restructuring is spreading among local party officials, government bureaucrats and the general population.

Do you agree with that conclusion? And if so, how serious is the resistance?

Mr. MACEACHIN. I am not sure about his statement that the antialcohol campaign failed. Most people thought it would fail because drunkenness and the abuse of alcohol did not start with the Bolsheviks and is a social phenomenon. For Westerners not familiar with the drinking customs in Russia, in the Soviet Union, it is hard to understand until you have really seen what a pervasive factor this is.

Senator PROXMIRE. It is hard for me to understand how in a country that is so firmly in the control of the government in a total way and has so little regard for human rights and liberties, and so forth, and controls all the production of everything why they can't just reduce almost to the point of elimination the production of alcohol.

Mr. MACEACHIN. I am not sure what Shmelyev's basis for these figures are.

Senator PROXMIRE. As I understand it, he argues that they have increased their illegal production, their moonshine.

Mr. NAGY. That's exactly the point.

Mr. MACEACHIN. He has to show that the illegal production has compensated for the reduction in legal production.

Senator PROXMIRE. That is pretty hard to measure, isn't it?

Mr. MACEACHIN. That's my point. I don't know how he is measuring it.

Mr. WHITEHOUSE. It is pretty hard to measure in terms of final production of alcohol, but you get a pretty good indicator when you look at sugar sales. Sugar sales have skyrocketed in the Soviet Union. It is for moonshine. There is a joke going around in some circles in the Soviet elite that perestroika is now complete because there is no more socialist production of alcohol, it's all moonshine.

Mr. MACEACHIN. It's in private enterprise.

Mr. WHITEHOUSE. That is indicative of what has happened. They are producing a tremendous amount of liquor illegally. One indicator is the sugar sales, of course.

Mr. MACEACHIN. This was known from the outset. Anyone who has studied the social process of the Soviet Union knew that the effort to cut off alcohol production legally was simply going to result in illegal production. Whether it exactly matches the drop in legal production is something we don't know.

Senator PROXMIRE. It would in this country. You see, I have the illusion, and I suppose many Americans do, that the Soviets because of their total control of their economy, because of their control of all the resources in the economy, including sugar and including anything else, and their total control of the military and the police together, should be able to have a more effective prohibition system than we had. Obviously it failed in this country, as we all know. Apparently it doesn't make a bit of difference.

Mr. MACEACHIN. Senator, it has to be implemented. They have control, but an awful lot of the control isn't exercised. That is what the corruption issue is all about, and that's another feature.

Senator PROXMIRE. What you are telling us really is that there is an increase but obviously it is very hard to measure. The illegal production is something that I am sure they don't have records of.

Mr. MACEACHIN. There is no one publishing statistics on it.

DEFENSE SPENDING RATES OF GROWTH

Senator PROXMIRE. What is the estimate for the rate of growth for the Soviet defense spending, General, in 1985, 1986, and 1987, and is there any difference between the CIA and the DIA over this estimate? And if so, why the difference?

General HORTON. I would say we are very close together. I would ask Jerry Weinstein to elaborate.

Mr. WEINSTEIN. Our measure is from the Soviet perspective. Including inflation in the numbers, we see defense spending rising in the neighborhood of 5 to 6 percent. That is what the Soviets themselves are seeing.

Senator PROXMIRE. Five to six percent over what period?

Mr. WEINSTEIN. In the last 3 years or so.

Senator PROXMIRE. In total?

Mr. WEINSTEIN. In total.

Senator PROXMIRE. Annually?

Mr. WEINSTEIN. At an average annual rate, yes, sir.

Senator PROXMIRE. Is that in rubles or dollars?

Mr. WEINSTEIN. Rubles.

Inflation is probably somewhere in the neighborhood of 2 to 3 percent per year, which would give us an estimate.

Senator PROXMIRE. You are talking about current normal dollars. If you take inflation into account, it is around 2 percent.

Mr. WEINSTEIN. Inflation is probably 2 to 3 percent in the total figure.

Senator PROXMIRE. With inflation out, in real terms it has been about 2 percent?

Mr. WEINSTEIN. Somewhere between 2 to 4 precent, I would guess.

Senator PROXMIRE. As I understand it, the inflation is 3 to 4 percent, at least overall in the economy. Is it less for the military?

Mr. WEINSTEIN. Sir, that's a very soft figure. There is no hard evidence on what the inflation rate actually is.

Senator PROXMIRE. Director MacEachin, do you have a different view on that?

Mr. MACEACHIN. Go ahead, Mr. Abbott.

Mr. ABBOTT. Our estimate of the growth in defense spending since 1985 has been on the order of about 3 percent a year. That's in constant prices, using 1982 rubles as our price base.

Senator PROXMIRE. Is that in real terms, allowing for inflation, or not?

Mr. ABBOTT. That's in real terms, Senator.

Senator PROXMIRE. Is that dollars or rubles?

Mr. ABBOTT. That's rubles.

Senator PROXMIRE. How about the dollar estimates?

Mr. ABBOTT. The dollars would be somewhat less because of index number effects.

Senator PROXMIRE. When you came a few years ago, one of the surprises was there was a lower estimate of defense spending than there had been in the past, a feeling that the defense spending had slowed down in the Soviet Union.

Mr. MACEACHIN. My recollection is we have been talking about the slowdown.

Senator PROXMIRE. I don't mean it was negative, but it was a lesser annual increase than the estimates had been in the past.

Mr. MACEACHIN. I think we have been reporting for the last three or four visits here that the rate of growth in defense spending had slowed; it hadn't gone negative and it hadn't gone perfectly flat, but from a 4 to 5 percent growth in the early 1970's, it had dropped down to about 2 to 3 percent.

Senator PROXMIRE. Do you still feel that is the case?

Mr. MACEACHIN. Yes, sir.

Senator PROXMIRE. Mr. Kaufman has a question.

DOLLAR ESTIMATES

Mr. KAUFMAN. Mr. Abbott, you began to say something about the dollar estimates. You said that you prefer not to provide dollar estimates?

Mr. ABBOTT. No. I was referring to growth rates. I am not as accustomed to talking about growth rates in dollars, because we use dollar measures to portray the comparative size of the Soviet defense effort relative to U.S. defense outlays, rather than to portray changes in the Soviet commitment to defense. We are just more comfortable with using ruble measures for the latter purpose. Regardless of whether rubles or dollars are used, we have seen growth under Gorbachev.

Mr. MACEACHIN. For example, if we do a dollar comparison, as you know we have to pay a Soviet soldier at U.S. pay scale. When we try to measure the change up or down in Soviet spending, we prefer to do it in rubles because we are taking account of the relative resource cost within the Soviet Union. In our case we try to do it in constant rubles so that we can factor out inflation.

Mr. KAUFMAN. Do you calculate rates of growth in the dollar estimates of defense?

Mr. ABBOTT. Yes. We have dollar estimates, but I do not recall the specific growth rates of Soviet defense activities measured in dollars during the past few years.

Mr. NAGY. But it's the rate of growth of the dollar estimates.

Mr. KAUFMAN. Is the rate of growth of the dollar estimate different, and if so, is it higher or lower than the rate of growth of the ruble estimate?

Mr. ABBOTT. It tends to be a little lower because personnel costs, which constitute a larger segment of the Soviet defense effort when valued in dollar terms than when valued in rubles, have not been growing very rapidly. You have a roughly constant military manpower.

Mr. KAUFMAN. You are saying the dollar estimate rate of growth is somewhat lower than 3 percent for the past 3 years?

Mr. ABBOTT. For the last couple of years, yes.

General HORTON. But if you are to look at the dollar cost of just procurement as compared to the total defense, I would expect that one would see a closer parallel between increases in dollar costs and increases in ruble costs.

Senator PROXMIRE. Let me follow up on this by putting it this way. Give the response that you were going to give to Mr. Kaufman for the record.

Mr. KAUFMAN. Could you provide the dollar estimate rate of growth for the record?

Mr. ABBOTT. Yes.[1]

DEFENSE SPENDING UNDER GORBACHEV

Senator PROXMIRE. This is for the CIA. You previously estimated that under Brezhnev beginning in 1975 Soviet defense spending slowed from 4 percent to 2 percent annually. Do you believe Gorbachev is continuing that policy, or is there evidence that he has changed the policy?

Mr. MACEACHIN. The evidence we have so far—I think we all agree on this—is that that curve, that rate of growth that we saw from about the mid-1970's, has remained through so far in the Gorbachev period.

Senator PROXMIRE. So it is down around 2 percent?

Mr. MACEACHIN. In any one year it might be 3 or 1, but as a sustained average it is about 2.

CYCLICAL RISE

Mr. ABBOTT. Congressman McMillan made the remark earlier about the difficulty or problems that result when you focus on a single year. We have seen growth in defense spending under Gorbachev that is on the order of 3 percent, which is somewhat higher than the previous few years under his predecessors. We think we are talking largely about a cyclical effect. There were weapons programs which we had expected to see come on stream in the late Brezhnev and Andropov and Chernyenko period that were delayed for policy reasons or because of technical problems. These weapons have begun to come on stream. So we have had growth in defense spending of about 3 percent and growth of about 4 percent in military procurement. Part of this has been a recovery, in our estimates, from some down years in the earlier 1980's. We haven't seen evidence of a policy change.

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[1] A classified table was subsequently submitted for the hearing record.

AFGHANISTAN

Senator PROXMIRE. Last year you projected defense spending would continue to grow at a 2-percent rate for the foreseeable future. I take it that is still your view, but I wonder if the end of the Afghanistan war could have an effect on that.

Mr. ABBOTT. Afghanistan itself, Senator, would not have a big impact.

Senator PROXMIRE. Not big. After all, we are talking about a 2-percent increase. Two percent isn't very big either.

Mr. ABBOTT. At the margin, it is the kind of impact that Afghanistan would have. That could have some impact.

Senator PROXMIRE. I would think the effect would be to reduce that to 1 percent or maybe not at all. Would it have some effect?

Mr. ABBOTT. It would have an impact at the margin. The kind of costs that we have been capturing in Afghanistan are the extra ammunition and operations and maintenance requirements, the replacement of equipment that has been destroyed. We didn't see any evidence of the overall force growing any larger.

Senator PROXMIRE. The end of the Vietnam war in this country resulted in some reduction in our spending.

Mr. NAGY. We did, though, we are saying we don't know what the Russians will do, and that it is reduction in forces that resulted in savings on the part of the United States. We are not certain those forces withdrawn from Afghanistan or the infrastructure that supported them outside of Afghanistan will be cut. We don't know that yet.

General HORTON. Indeed, they would not have added.

Mr. NAGY. They did not grow. It was not a growth factor.

General HORTON. It was redeployed.

Mr. MACEACHIN. I guess I am not certain. When they first went into Afghanistan they mobilized some forces. At some point subsequent to that those people were replaced. Part of the reason, of course, was they didn't want to have all the Turkish and Muslim soldiers in there engaging in this war in Afghanistan. Over time the net increase in manpower would have been lost in the rounding.

Senator PROXMIRE. Let me ask you a question. It will take a long time to give a complete answer, but see if you can give me an answer in about a minute or so.

NEW EMPHASIS IN MILITARY TECHNOLOGY

Last year a CIA report indicated that the Soviet military was modifying its approach to procurement by emphasizing more sophisticated technology in an effort to keep up with the greater effectiveness of Western weapons.

Can you give us some examples of this and discuss the problems the Soviets face in that area?

Mr. MACEACHIN. Senator, let me cite one example. The Mig-29 and Su-27 aircraft, which are the latest fighters that have gone into service, are much more modern, are a major step forward from earlier Soviet fighter aircraft in terms of weapons systems, electronics, propulsion systems. These aircraft were a long time in the

pipeline. [Security deletion.] Its impact has been to increase unit cost substantially and to slow the rate of the introduction.

General HORTON. In the aggregate, you end up with production figures going down but procurement costs going up.

FST–1 SOVIET TANK

Senator PROXMIRE. General, let me follow up on that. Newsweek has an article which quotes Donn Starry, a retired U.S. Army general, as saying the Soviets have achieved a technical development in the tactical level of war which has strategic implications. We haven't seen anything like that in Europe since the advent of the tactical nuclear system. Talking about tanks, the new tank is known in NATO circles as the FST–1, for follow-on Soviet tank. According to Western intelligence services, it is undergoing full-scale field trials 5 years earlier than predicted by the West. Perhaps 1,200 of the vehicles have taken part in those tests in military districts of the Soviet Union.

What can you tell us about that tank and its capabilities?

General HORTON. My understanding is that indeed there are some new technologies involved and that if not in this specific model, in one of their coming models they are going to an unmanned turret tank for a much lower profile.

Senator PROXMIRE. What is really disturbing to us is that according to this article it makes our antitank defense obsolete. Is that true?

General HORTON. Perhaps even more important than what was just cited is the retrofitting of current tanks in the Warsaw Pact area with the reactive armor, which does make it much more difficult, if you will, for antitank systems to operate effectively against the tanks that are already in the field in the Pact.

The next generation will not be that great a delta from what is being achieved in reactive armor.

Senator PROXMIRE. Do you agree that this is really a serious threat to NATO?

Mr. MACEACHIN. I certainly agree that it is a major technological advance of weapons systems, yes, sir, but I am not prepared to go beyond and make a net assessment until I get more data. Whether it renders our antitank weapons obsolete I am not going to address.

General HORTON. [Security deletion.]

Senator PROXMIRE. On page 34 of your joint report, General Horton, there is listing of selected future major weapons programs. Why is the new tank not on the list?

General HORTON. It was just pointed out to me that this particular table was a table of future systems not currently in production. However, there is reference to new ground forces vehicles in the next century which would be perhaps the follow-on to the FST–1.

Senator PROXMIRE. They are testing this now, apparently, aren't they?

Mr. NAGY. The time between the testing of a system like that with its technology and its introduction is considerable.

Senator PROXMIRE. It is 12 years to the next century. You're saying it's the next century?

Mr. NAGY. In terms of the fixing of the technology and the fielding of that tank into an operational unit, 12 years is not an excessive amount.

Mr. MACEACHIN. The testing which is being described here, it is my understanding, is field trials, which is not research and development.

Senator PROXMIRE. That helps if it's 12 years, because we could have a super antitank system too by then.

Mr. NAGY. From the time of the fixing of the technology to the design of that tank 12 years is not excessive. We are into that 12 years with what we see now. What we see, as I understand it, is an industrial test that leads to the introduction of that weapon system into the armed forces for their testing process, which is yet to come. We can give you a better answer in a written form.

Senator PROXMIRE. Mr. Kaufman, go ahead.

Mr. KAUFMAN. Can you estimate when the earliest time that tank might be deployed in large numbers?

General HORTON. We can give you an approximation.

Mr. MACEACHIN. The answer that we give you will be premised on other things being equal and if nothing happens and the program moves along like a typical program. This individual item of equipment might not follow that pattern.

SOVIET PARTICIPATION IN IMF, WORLD BANK, AND GATT

Senator PROXMIRE. Director, let me ask you this on another subject. There were indications in 1987 that the Soviets were interested in joining IMF, World Bank, and GATT. However, I understand that in January of this year Ivan Ivanov, an official with the Soviet State Foreign Economic Commission, said that the U.S.S.R. will not apply for GATT membership until trade practices have been modified to conform to GATT practices.

Have the Soviets pulled back from their earlier position on GATT, and is there reason to believe that they are also reconsidering joining the IMF and the World Bank?

Mr. MACEACHIN. I will ask Mr. Whitehouse to respond.

Mr. WHITEHOUSE. To some extent that is true, sir. They are still extremely interested in GATT. Other than a brief flurry of interest early in Gorbachev's tenure, they have not professed any serious interest in joining the IMF. They are more interested in GATT.

Senator PROXMIRE. Why are they showing less interest in IMF?

Mr. WHITEHOUSE. Because IMF would cost them money. They would have to donate money to that in order to belong, and they are not in a position to do that.

Senator PROXMIRE. What trade practices would the Soviets have to modify in order to conform to GATT practices?

Mr. WHITEHOUSE. They have to move away from state-controlled trading practices and trade more in manufactures.

Senator PROXMIRE. How long would that take?

Mr. WHITEHOUSE. I suspect that will take them a minimum of 5 or 6 years. The only manufactures they now trade in besides arms are automobiles and some airplanes.

Senator PROXMIRE. Gentlemen, I want to thank you very much. This has been a very helpful hearing. We are in your debt. We

hope you can sanitize and make it available so that we can get it out as soon as possible.

Can you give us an estimate of roughly how long it will take?

Mr. MACEACHIN. As soon as we get it we will start right to work on it. So we could turn it around in a matter of a few weeks or less; 2 or 3 weeks.

Senator PROXMIRE. The subcommittee will stand in recess until April 21 when we will hear testimony on China.

[Whereupon, at 12:15 p.m., the subcommittee recessed, to reconvene at 10 a.m., Thursday, April 21, 1988.]

[The following military production tables were subsequently supplied for the record by DIA:]

MILITARY PRODUCTION TABLES

UNITED STATES GOVERNMENT

memorandum

U-74,370/DB-4

DATE: 21 DEC 1988

REPLY TO ATTN OF: DB-4

SUBJECT: Update of Tables for the Joint Economic Committee (JEC)

TO: DI-3

The enclosed tables update the procurement data on page 121 of the 1987 edition of Soviet Military Power and the production data on page 122. U.S. data on procurement and production are not yet available, so U.S. and total NATO values cannot be provided.

2 Enclosures
1. Soviet Procurement, 1979-88 1 Cy
2. Soviet Military Production, 1986-88 1 Cy

Jerry M. Magoulas

JERRY M. MAGOULAS
Chief, [illegible]s/Projects
Directorate for Research

DIA/DB-4
20 Dec 88

Soviet Procurement, 1979-88

ICBM's and SLBM's	2,825
IRBM's and MRBM's	925
Surface-to-Air Missiles	120,000
Long- and Intermediate-range Bombers	405
Fighters/Fighter-Bombers	6,250
Military Helicopters	4,310
Submarines[1]	75
Major Surface Warships	83
Tanks	26,200
Artillery[2]	25,100

[1]Includes SSBN's and attack models only.
[2]Excludes AAA.

DIA/DB-4
20 Dec 88

Soviet Military Production, 1986-88

	1986[1]	1987	1988
Ground Force			
Tanks	3,300	3,500	3,500
Other Armored Fighting Vehicles	3,700	4,050	4,550
Towed Field Artillery	1,100	900	1,100
Self-propelled Field Artillery	900	900	1,100
Multiple Rocket Launchers	500	450	500
Self-propelled AAA	100	100	100
Towed AAA	0	0	0
Missiles			
ICBM's	75	125	150
LRINF	25	75	50
SRBM's	600	500	450
SLCM's	1,100	1,100	1,100
SLBM's	100	100	100
Aircraft			
Bombers	50	45	45
Fighters/Fighter-Bombers	650	700	700
Transports	200	175	150
ASW	5	5	5
Military Helicopters	500	450	400
Utility/Trainers	45	10	10

DIA/DB-4
20 Dec 88

Soviet Military Production, 1986-88 (Continued)

	1986	1987	1988
Naval Ships			
Submarines	8	9	9
Surface Warships[2]	9	8	10
Other Surfaced Combatants[3]	60	55	51
Auxiliaries	6	7	7

[1]Some 1986 figures revised to reflect current total production information.

[2]Includes aircraft carriers, cruisers, destroyers, frigates, and corvettes.

[3]Includes patrol combatants, coastal patrol craft, and mine warfare and amphibious warfare ships and craft.

ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA—1987

THURSDAY, APRIL 21, 1988

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON NATIONAL SECURITY ECONOMICS
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to recess, at 10:10 a.m., in executive session, in room SD-628, Dirksen Senate Office Building, Hon. William Proxmire (chairman of the subcommittee) presiding.

Present: Senator Proxmire and Representative Scheuer.

Also present: Richard F Kaufman, general counsel.

OPENING STATEMENT OF SENATOR PROXMIRE, CHAIRMAN

Senator PROXMIRE. The subcommittee will come to order.

I apologize, folks, that I am tardy. I had to go to the floor to make a statement. Congressman Scheuer will be here shortly. He had to go back to the House and vote.

Today we will hear testimony from the Central Intelligence Agency on the Chinese economy, completing this year's hearings on the "Allocation of Resources in the Soviet Union and China."

China's performance over the past several years has been impressive, especially in terms of growth. We've been watching with great interest China's efforts to reform the economy and to shift from a system of rigid central planning to a somewhat more flexible system that emphasizes free markets. China has experienced problems on the road to reform. This is not surprising, given the magnitude of her problems and the enormous size of her population. It is difficult for us to comprehend how a nation with a GNP of $285 billion must support more than a billion people. In fact, their economy is so small, assuming we are estimating it correctly, that it also puts into perspective the recent rapid growth rates.

It will take decades of sustained rapid growth before China can be counted among the major economic powers.

There are questions as to whether China can sustain rapid expansion without making more progress toward economic reform. Reforms have gotten a lot of attention and deservedly so, but the most important ones were put into place by the early 1980's, and there are signs that further major advances will be placed on hold.

To present the CIA's current estimates, we have a distinguished group of spokespersons, headed by James Harris, Deputy Chief of the China Division of the Office of East Asian Analysis.

Mr. Harris, after you have introduced the persons accompanying you, we would like you to take 10 to 15 minutes to summarize your report. It will be placed in the record in full, and by the way, I want to compliment you on the report. It is the most substantive and comprehensive on China we've received since the series began. We began the series about 15 years ago.

So go right ahead. We will have a number of questions, and Congressman Scheuer and perhaps others will be here to question you also.

[The report of the CIA follows:]

Directorate of
Intelligence

CHINA:
ECONOMIC POLICY AND PERFORMANCE IN 1987

April 1988

China: Economic Policy and Performance in 1987

This paper was prepared by the Central Intelligence Agency for submission to the Subcommittee on National Security Economics of the Joint Economic Committee, Congress of the United States.

This report will be released to the public following the appearance of the Deputy Chief of the China Division, Office of East Asian Analysis, Directorate of Intelligence, CIA. Draft not to be released without permission of the Chairman.

China: Economic Policy and Performance in 1987

Summary
Information available
as of 18 April 1988
was used in this report.

China's economy turned in a mixed performance in 1987. Chinese statistics indicate a substantial decline in the trade deficit, high industrial growth, and improved labor productivity. These achievements were accompanied, however, by an increase in inflation, slow growth in urban real incomes, disappointing increases in grain production, and higher state subsidy payments to enterprises, trading corporations, and urban consumers.

Beijing's policy agenda for 1988 stresses reducing inflation, increasing grain output, and improving enterprise profitability. Beijing will tighten control of bank credit and aggregate state investment, raise state grain procurement prices, and increase investment in agriculture. It will also strive to introduce greater fiscal accountability and managerial autonomy to enterprises by broadening the use of performance contracts for state firms, applying a new state enterprise law, and possibly implementing bankruptcy regulations enacted in late 1986.

The foreign trade sector is one area where Beijing may proceed more rapidly with reform. Virtually all of China's leaders have endorsed the strategy of export-led development in China's coastal areas enunciated by Party Secretary Zhao Ziyang last January. In concert with the coastal development strategy, Beijing has increased the autonomy of municipal and provincial trade corporations and individual export-producing factories, while reducing the role of China's central trade ministry. The reforms are designed to wean traders away from costly state subsidies that now encourage factories to export goods even when they command higher prices on China's domestic market.

Crucial but politically sensitive price reforms will proceed slowly in order to minimize economic dislocations among consumers. Beijing will incrementally increase prices for agricultural goods and ease central controls on prices of raw materials and other goods sold outside the state plan. Rather than simply freeing all prices and having current economic conditions determine equilibrium price levels, Beijing will attempt to erode differentials between in-plan and market prices for a variety of commodities, hoping in the process to encourage production of items in short supply and to avoid sharp price hikes.

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China: Economic Policy and Performance in 1987

Economic Performance

China's real GNP rose 9.4 percent in 1987, up from a 7.8-percent increase in 1986, but below the double-digit growth rates of 1984 and 1985. After particularly rapid growth during the first half of the year, Beijing tightened credit in order to rein in investment, which had seriously strained industrial supplies and exerted upward pressure on prices. Fixed asset investment nonetheless increased 17 percent in 1987, with the strongest gains coming from collectives and private individuals. State investment in raw materials, energy, light industry, and factory innovation projects also grew fairly rapidly.

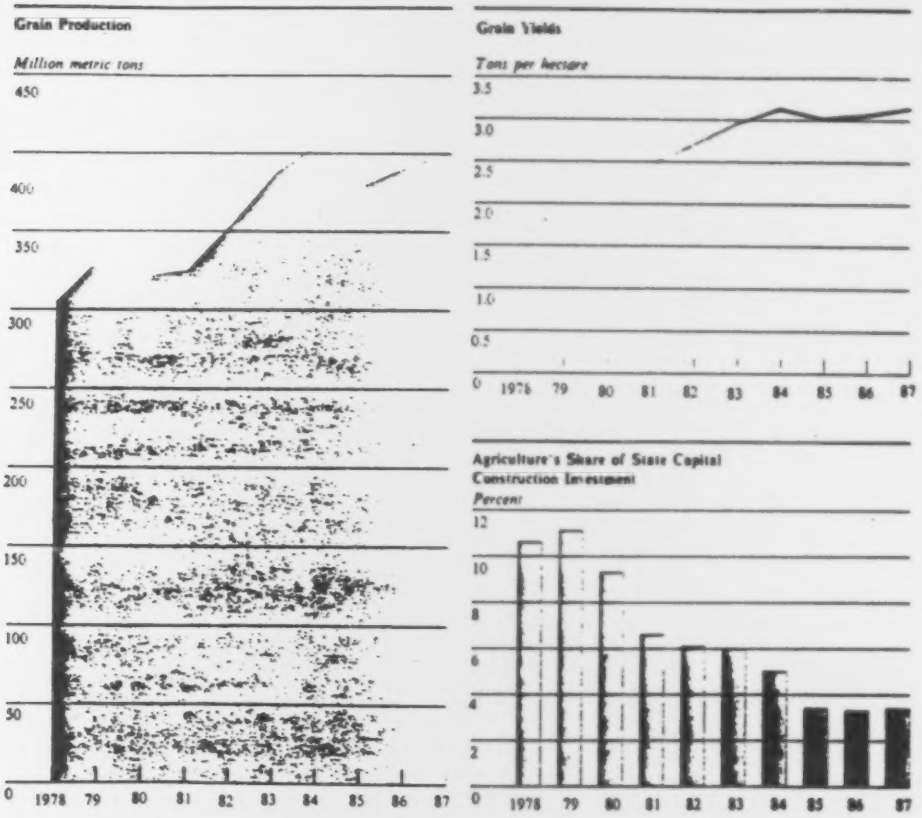
China's retail price index rose 7.3 percent during the year, according to official Chinese statistics, and some cities recorded double-digit inflation rates. Food price increases--up more than 10 percent--were responsible for most of the rise in the price index, roughly half of which is based on food. In real terms, accordingly, urban per capita income increased only 1.7 percent, and one-fifth of China's urban households experienced a decline in their real incomes. Inflation also eroded gains in rural per capita income, which showed a 5.3-percent increase in real terms.

The Rural Economy

Gross agricultural output rose 4.7 percent in real terms last year, up from 3.4 percent in 1986, largely because of a strong performance in cash crop production. Grain production reached 402 million metric tons, up 3 percent from 1986, but still below the record harvest of 407 million metric tons in 1984 (see figure 1). After two years of being a net grain exporter, China last year resumed its status as a net importer of grain, purchasing approximately 16 million metric tons--primarily from Canada, Australia, and the United States (see figure 2).

China's lagging grain production is in part a reflection of the success of reforms in the rural sector. For example, after achieving double-digit growth rates in the early 1980s through a combination of favorable weather, increased financial incentives for peasants, and implementation of household-based farming, Beijing loosened central controls over peasants in 1985, allowing them to produce the crops of their choice after fulfilling contractual obligations to the state for grain production. At the same time, Beijing relaxed state controls over the prices of nonstaple foodstuffs such as vegetables, fruit, and meat. Free market prices for cash crops soared, while the state dropped grain prices to avoid another grain surplus the size of that in 1984. Cash crop production consequently began to draw an increasing share of China's farmland, and as a result, cash crop output gains have far outpaced increases in grain production. Low feedgrain prices also encouraged peasants to raise livestock. However, the ensuing jump in meat production in 1985 and 1986 reduced the profitability of producing livestock and led to last year's return to rationing of pork (see table 1).

Figure 1
China: Trends in Agriculture, 1978-87



Source: Official Chinese statistics and US Department of Agriculture

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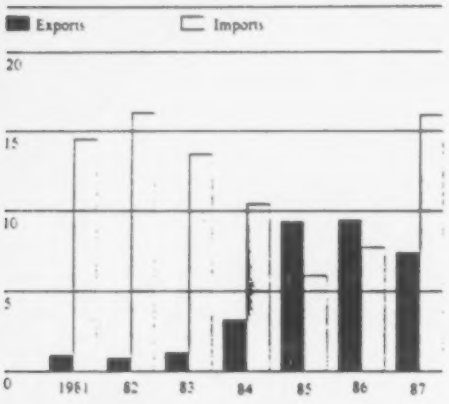
Figure 2
China: Grain Trade

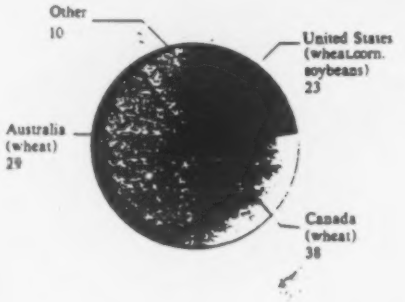
Million metric tons

Exports and Imports, 1981-87[a]



Major Grain Suppliers, 1987 [b]

Percent



[a] Calculated by volume of exports

Source: Chinese Customs statistics and partner country trade statistics as reported to the United Nations

Table 1
Chinese Output of Major Agricultural Crops, 1987

Crop	Million Metric Tons	% Change
Grain	402.4	+2.8
Cotton	4.2	+18.4
Oil-bearing Crops	15.3	+8.1
Sugarcane	46.9	-6.7
Fruit	15.5	+15.1
Pork	17.8	-0.9
Beef and mutton	0.2	+16.9
Aquatic products	9.4	+14.1

Source: China's State Statistical Bureau

State investment in agricultural infrastructure has continued to decline both in real terms and as a share of total capital construction expenditures, and neither local government agencies nor peasants have taken up the slack. Beijing has permitted local officials to exercise greater autonomy in deciding how to allocate state investment funds in rural areas--and rural officials often have chosen to develop profitable rural industries on farmland rather than to make investments in agricultural infrastructure projects. Meanwhile, peasants have invested their savings in housing or consumer goods, fearing that changes in Beijing's agricultural policies might deprive them of benefits from infrastructural investments. Thus total farmland has decreased and improvements needed in rural infrastructure have been lacking.

Tight grain supplies in 1987 were also the result of a continuing rise in consumer demand, as rapidly rising incomes raised purchases of a variety of foodstuffs requiring grain inputs. Strong demand for bread, beer, cooking oil, meat, and eggs has strained supplies of high-quality grains, oilseeds, and feedgrains. To dampen demand and minimize inflationary pressures, Beijing has resumed the practice of issuing ration tickets for such food products as eggs and sugar in several major cities.

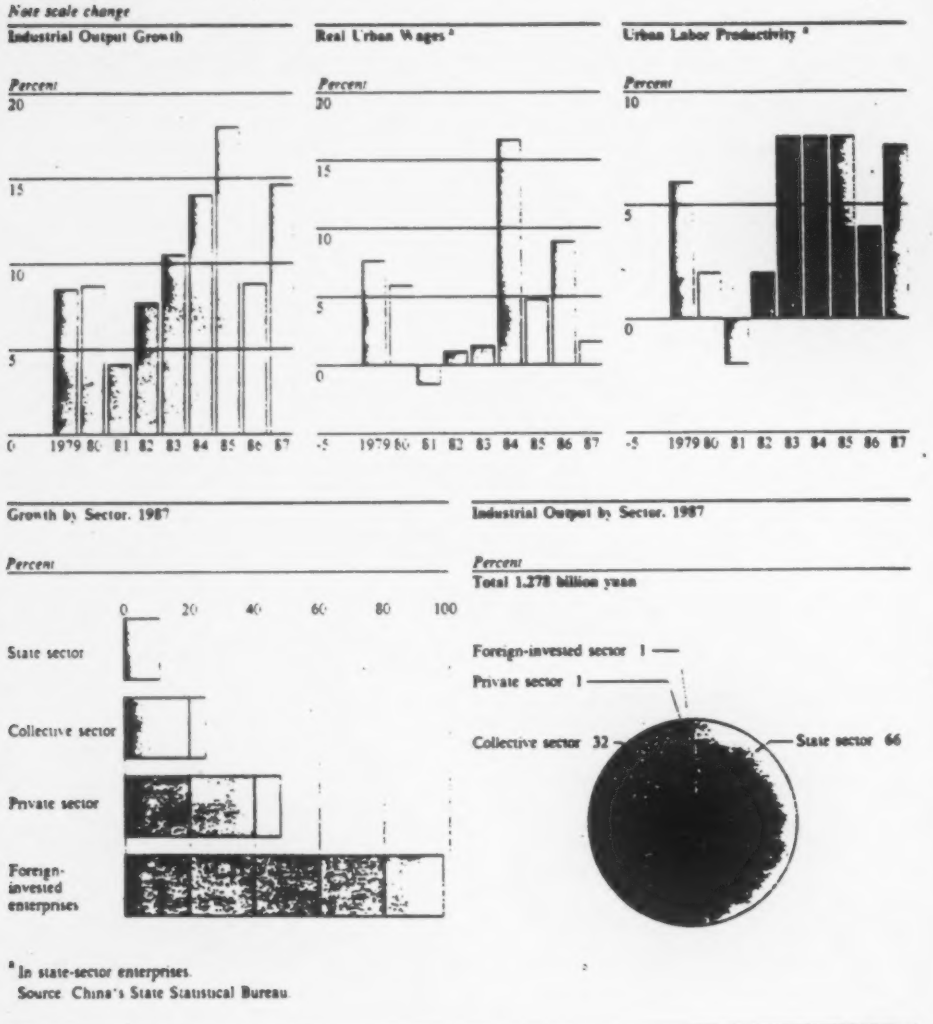
In contrast to grain, China's rural industrial output posted strong growth in 1987. Indeed, rural industry and commerce are among the most dynamic segments of the Chinese economy, and now employ about 15 percent of China's labor force--more than 85 million people. Rural industrial output grew by 36 percent in 1987 in real terms, and rural industries earned $5 billion from exports--about 15 percent of China's total export earnings.

Industrial Performance

China's urban industrial output grew 15 percent in 1987 in real terms (see figure 3). Growth was especially rapid in the private and collective sectors, and the output of foreign-invested enterprises doubled during the year--although it remains a very small portion of China's total industrial output. Production of consumer goods, farm machinery, motor vehicles, and chemical fertilizers and pesticides grew at double-digit rates.

China's output of electricity grew at a record-setting pace--roughly 10 percent--but nonetheless failed to match the growth in industrial output. Power shortages continued to idle roughly one-fifth of China's industrial capacity. In contrast

Figure 3
Trends in Chinese Industry, 1979-87



[a] In state-sector enterprises.
Source: China's State Statistical Bureau.

to healthy growth in electricity output. China's production of coal and oil rose only 3 percent.[1]

Chinese statistics indicate that state enterprises improved their operating efficiency in 1987. Profits rose 6 percent and labor productivity increased by nearly 8 percent. But one-eighth of China's state enterprises continued to lose money, and the size of those losses was larger last year than in 1986. By and large, factory managers have faulted rising input prices for their losses. Beijing last year deliberately increased state procurement prices for industrial crops such as cotton in order to stimulate production; at the same time, Beijing has encouraged the development of a raw materials market in which producers and users of such goods as steel, cement, and lumber buy and sell industrial inputs at free-market--and substantially higher than state-set--prices. Last year, for example, for the first time a majority of China's rolled steel was distributed outside of the state plan.

International Trade and Investment

Concerned about the level of foreign exchange reserves resulting from two years of substantial trade deficits and lackluster foreign direct investment inflows, Beijing tightened controls over imports and foreign exchange expenditures last year. At the same time, Beijing stepped up efforts to boost the country's export earnings. As a result, China's trade deficit shrank from $12 billion in 1986 to only $3.7 billion in 1987, according to Chinese Customs statistics (see figure 4). With a net gain of $3.4 billion in earnings from tourism and other services, Beijing's current account was nearly in

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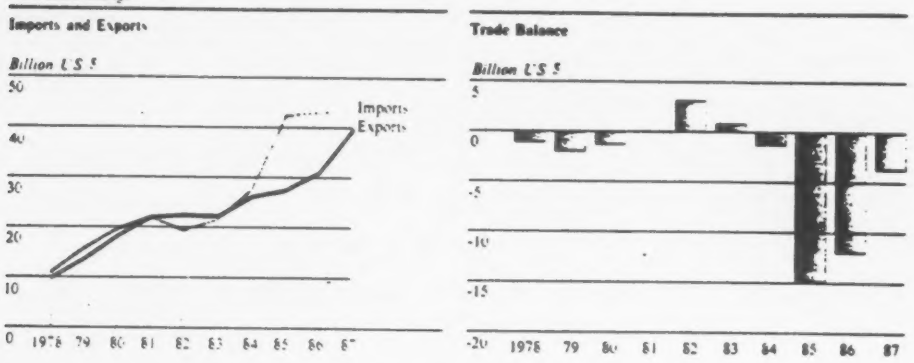
[1] China is the world's second-largest producer of coal, after the United States, and fourth-largest producer of crude oil, following the Soviet Union, the United States, and Saudi Arabia.

Figure 4
China: Imports, Exports, and Trade Balance, 1978-87



Source: Chinese Customs statistics

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balance. Accordingly, official foreign exchange reserves grew from $9.9 billion in January to $15.2 billion in December, sufficient to cover more than four months' imports.

Hong Kong displaced Japan as China's top trading partner as Beijing curbed its purchases from Japan to reduce the large bilateral trade imbalance, diversify sources of supply, and find lower-cost suppliers less affected by currency appreciation. Hong Kong also drew a larger share of China's exports, many of which the territory subsequently reexported to the United States and other destinations--including Taiwan and South Korea. The United States, West Germany, and the Soviet Union followed Hong Kong and Japan as China's major trade partners (see table 2).

China's imports remained stagnant for the second year in a row as a result of tighter procedures for allocating foreign exchange and closer monitoring of purchases to avoid duplication and encourage import substitution when possible. Purchases centered on industrial machinery not available domestically, equipment and raw materials to be used in export processing, and agricultural inputs such as fertilizer and pesticides. Reflecting Beijing's concerns about lagging grain output, imports of grains increased by more than 60 percent, totalling $1.6 billion. Reduced international grain prices also contributed to the surge in grain imports; Beijing took advantage of prices driven down by subsidies from the European Community and by the US Export Enhancement Program to complement domestic output (see table 3).

Table 2
China: Major Trade Partners, 1987

Imports	Billion US$	%	Exports	Billion US$	%
TOTAL	43.2	100	TOTAL	39.5	100
Japan	10.1	23	Hong Kong	12.5*	32
Hong Kong	8.1*	19	Japan	6.4	16
United States	4.8	11	United States	3.0	8
West Germany	3.1	7	West Germany	1.2	3
Soviet Union	1.3	3	Soviet Union	1.2	3

Table 3
China: Major Import and Export Commodities, 1987*

Imports	Billion US$	%	Exports	Billion US$	%
Specialized machinery	4.8	11	Textile yarn, fabric	5.3	13
Iron and steel	4.8	11	Petroleum	3.7	9
Cereals and cereal preparations	1.6	4	Clothing, apparel	3.5	9
General industrial machinery	1.5	3	Textile fibers	1.5	4
Electrical machinery/ apparatus	1.4	3	Misc. mfd. articles	1.2	3
Telecommunications eqt.	1.3	3	Oilseeds	0.8	2
Fertilizers	1.2	3			
Road vehicles	1.1	3			
Plastics	0.8	2			
Textile fibers	0.8	2			

*Projected based on data available through September 1987. Source: Chinese Customs Statistics.

On the export side, China's 1987 performance demonstrates the success of Beijing's efforts to promote rapid growth by:

- Providing priority domestic investment funds to export-producing projects.
- Allowing export-producing Chinese factories to retain a share of their foreign exchange earnings.
- Providing state subsidies to cover the losses of exporters selling goods at world prices that are below China's costs of production.
- Devaluing the Chinese currency relative to most major world currencies.[2]
- Giving foreign investors special tax and other incentives for participation in factories producing for foreign markets.

China's export earnings grew by more than one-fourth last year--to nearly $40 billion. Export earnings from industrial and manufactured goods increased from 63 percent of the total in 1986 to 66 percent. China's most striking export gains have come in textiles and apparel shipments--which last year accounted for about one-fourth of China's total exports. According to Chinese press reports, China is the world's largest silk producer and exporter--with its raw silk exports accounting for 90 percent of global sales volume, and silk fabric exports making up 40 percent of the world market. China also has become the world's second-largest supplier of raw cotton by volume, after the United States. Raw cotton exports earned Beijing nearly $750 million last year, a 50-percent jump over 1986.

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[2] Beijing has not devalued the Chinese yuan against the US dollar--to which it is unofficially pegged--since mid-1986. As the dollar has fallen, however, the value of the yuan has effectively declined relative to many other currencies.

Beijing recognizes that foreign managerial and technical expertise has contributed significantly to China's ability to boost exports. Export earnings by foreign-invested enterprises doubled in 1987, to $1 billion. According to China's Ministry of Foreign Economic Relations and Trade, China has signed contracts for more than 10,000 foreign-funded enterprises, 4,300 of which are now in operation. China's paid-in foreign investment reached $8.5 billion by the end of last year, showing a $1.9 billion increase in 1987--probably reflecting both investors' more favorable view of China's investment climate in the wake of new legislation adopted in late 1986 and changes in the global economy that have tended to encourage increased investment by many developed countries in regions that have low labor costs. But the apparent improvement in China's ability to draw foreign investment also reflects the depressed level of investment in 1986 as Beijing's curbed inflows of foreign funds to nonproductive activities such as hotels.[3]

US-China Trade. China's exports to the United States rose by one-third last year, according to US Commerce Department statistics, reflecting the success of China's overall export push. US sales to China increased by 12 percent--recovering from a slump in 1986--but remained below the record level of 1985. Accordingly, the US deficit widened to $3.4 billion, 60 percent higher than in 1986.

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[3] For further information in China's changing foreign investment picture, see appendix B.

Statistical Discrepancies

China's Customs statistics differ considerably from those recorded by the US Commerce Department. China calculates it had a $1.8 billion deficit with the United States last year, rather than a $3.4 billion surplus (see figure 5). The reason for the discrepancy is that the United States tallies all goods shipped to and from China, regardless of whether they are shipped directly or through third countries such as Hong Kong; China only includes direct shipments. In addition, the practice of including insurance and freight costs in the value of imports from the other partner accounts for about $1 billion of the $5.2 billion gap in trade statistics. The discrepancy between Chinese and US trade statistics has grown in recent years because China is shipping a larger share of its exports to the United States via Hong Kong.

Paralleling trends in China's overall exports, light industrial goods are becoming an ever larger share of China's sales to the United States. Exports of sporting goods, toys, travel goods, handbags, footwear, and tape recorders have grown especially rapidly. Textiles and apparel last year accounted for 40 percent of China's exports to the United States (see table 4). In value terms, according to US Commerce Department statistics, China ranked as the United States' second-largest supplier of textile yarns and fabrics, and its fourth-largest supplier of clothing. The United States, in turn, was China's largest market for clothing, and third-largest purchaser of yarns and fabric, after Hong Kong and Japan, according to Chinese Customs statistics. Despite the signing of a four-year bilateral textile accord last December that limits increases in the volume of China's exports in specified categories to 3.3 percent annually, the value of China's textile exports to the United States will probably continue to increase as Chinese apparel producers continue their move into higher quality and higher priced articles.

Regarding US exports to China, the most rapid gains have occurred in agricultural commodities. China's purchases of US grains and beverages have jumped more than twenty fold in 1987, while its imports of fertilizers, organic chemicals, edible oils, live animals, and oilseeds more than doubled. Machinery and transport equipment accounted for more than 40 percent of US sales to China in 1987, as the United States continued to benefit from China's strong demand for capital equipment for upgrading factories and aircraft for upgrading the civil air transportation network (see table 5). High-technology equipment (computers, aerospace equipment, telecommunications gear, scientific instruments, machine tools, and microelectronics devices) accounted for roughly one-third of China's purchases from the United States, as it has for the last three years. By the same token, the United States continued to supply about one-third of China's imports of high-technology goods, a share of the market that has remained relatively constant for the last five years (see tables 6-8).

Table 4
Selected US Imports from China, 1987

	Million US$	%
TOTAL	6,287.3	100
Clothing	1,987.5	32
Misc. mfd. articles, including toys and sporting goods	1,170.6	19
Textile yarn, fabrics	521.3	8
Petroleum	476.8	8
Travel goods, handbags	294.5	5
Telecommunications and recording equipment	239.6	4
Electrical machinery	146.3	2
Metal manufactures	140.7	2
Footwear	139.3	2

Source: US Department of Commerce. Imports valued F.A.S.

Table 5
Selected US Exports to China, 1987

	Million US$	%
TOTAL	3,488.6	100
Aircraft and parts, railway stock	500.8	14
Fertilizers, mfd.	270.0	8
Plastic materials	254.6	7
Specialized machinery	234.6	7
Cereals	234.1	7
Office machines, ADP equipment	189.3	5
General industrial machinery	177.4	5
Scientific instruments	169.0	5
Wood, lumber, cork	167.4	5
Organic chemicals	149.9	4

Source: US Department of Commerce. Exports valued F.O.B.

Table 6
Known Chinese Imports of High-Technology Equipment, 1979-86*

Million US$

Reporter	1979	1980	1981	1982	1983	1984	1985	1986
TOTAL	867	930	674	581	1,103	1,422	3,336	3,561
Australia	1	1	1	1	2	3	7	11
Austria	2	25	10	0	1	1	10	18
Belgium/Luxembourg	3	2	2	3	1	6	28	73
Canada	4	3	7	4	6	11	34	54
Denmark	8	6	5	6	11	16	17	20
Finland	1	2	1	0	1	1	5	14
France	26	44	34	40	32	41	238	192
Hong Kong	5	11	11	17	33	114	199	108
Ireland	0	0	0	0	0	0	1	3
Italy	6	11	11	6	10	23	70	121
Japan	139	204	310	176	279	467	887	1,040
Netherlands	11	10	10	4	4	7	13	24
New Zealand	0	1	0	0	0	0	0	0
Norway	0	4	1	1	4	6	7	7
Singapore	0	2	2	4	7	16	22	24
Spain	0	0	0	0	0	1	5	5
Sweden	15	11	10	7	16	20	47	59
Switzerland	48	32	40	76	48	47	86	126
Thailand	0	0	0	0	1	1	1	0
UK	152	129	70	55	53	76	113	139
US	91	257	105	145	514	471	1,332	1,085
West Germany	354	175	43	36	79	96	214	438

*High-technology equipment includes advanced computers, telecommunications equipment, aerospace equipment, scientific instrumentation, machine tools, and microelectrics devices. We have defined the category based on five-digit commodity categories according to the United Nations' Standard International Trade Classification (Revision 2) to exclude items for which research and development expenditures constitute a small share of final product cost, such as calculators, telephones, and simple machine tools. Data are based on sales reported to the United Nations by China's trade partners. Several of China's trade partners--including Soviet bloc countries and South Korea--do not report trade with China to the United Nations.

Table 7

High-Technology Equipment as a Percentage Share of US Exports to China, 1979-86

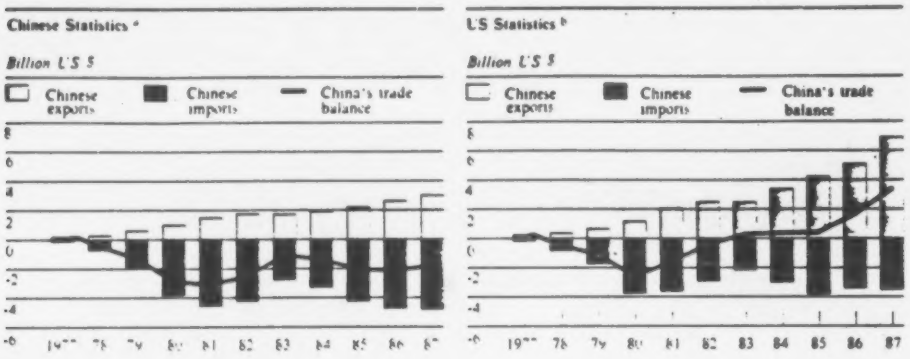
1979	1980	1981	1982	1983	1984	1985	1986
5	7	3	5	24	16	35	35

Table 8

US Percentage Share of China's Known Imports of High-Technology Equipment, 1979-86

1979	1980	1981	1982	1983	1984	1985	1986
10	28	16	25	47	33	40	30

Figure 5
China: Trade with the United States



[a] Source: Chinese Customs statistics
[b] Source: U.S. Commerce Department

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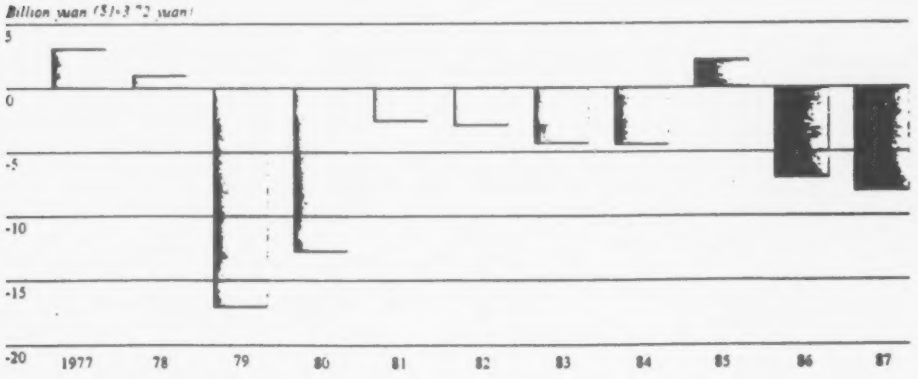
Figure 6
China: Budget Surpluses and Deficits, 1977-87



Source: Official Chinese statistics

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Sino-Soviet Trade. Sino-Soviet trade dipped in 1987 to $2.5 billion, after reaching $2.6 billion in 1986. A number of factors contributed to the modest decline:

- Tight domestic grain supplies constrained Beijing's ability to meet export commitments.
- Chinese dissatisfaction with the quality and technical level of Soviet industrial equipment postponed many of the 24 industrial cooperation projects slated to take place under the five-year accord signed in July 1985.
- Trade reform and decentralization in both countries have made it more difficult for Beijing and Moscow to ensure that individual factories and trade corporations adhere to trade commitments made at the central level.

Other factors will doubtless continue to constrain Sino-Soviet trade even if the countries iron out some of the specific problems that arose last year. For example, barter trade is by nature a cumbersome arrangement, with trade officials required to meet annually to negotiate the types and values of goods to be traded. Moreover, China and the Soviet Union both generally prefer to export their better goods to the West for hard currency instead of to each other, leading to reciprocal complaints about the dumping of inferior goods Bilateral trade should therefore remain a small percentage of each country's total trade, and will be dwarfed by their trade with the United States and other Western partners. The Soviet Union is China's fifth-largest trade partner, accounting for about 3 percent of China's total trade, according to Chinese Customs statistics.

Government Budget and Spending Priorities

China's budget deficit widened in 1987 to $2.2 billion (8 billion yuan), equivalent to 3 percent of state revenue, and about 1 percent of GNP* (see figure 6). This increase was not unexpected. Increased state investment expenditures accounted for some of the drain, as Beijing targeted priority construction projects in energy, raw materials, and light industry. But higher state subsidies to cover the losses of money-losing enterprises and state trading corporations exporting goods priced higher in China than in foreign markets, as well as payments to urban consumers to soften the impact of higher food prices, accounted for a growing share of the budget. Subsidy payments exceeded one-fourth of state expenditures.

Beijing expects the budget to remain in the red for several more years, and is projecting another $2.2 billion shortfall for 1988 despite an anticipated $500 million (2 billion yuan) gain in tax revenues and a planned 50-percent increase in treasury bond issues. According to the Finance Minister, food subsidies will rise by 22 percent, and state investment in agriculture will jump 15 percent. Earlier this year, China's State Council instructed government offices and state-funded institutions to reduce spending by 20 percent in 1988 and banned purchases of a variety of items.

The streamlining of government ministries and commissions announced at the National People's Congress in March is also expected to cut costs. Beginning in June, China will create a new State Economic Planning Commission by merging two existing

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* Using Western accounting procedures, China's budget deficit was probably twice the level reported, equivalent to 7 percent of government revenue and 2 percent of GNP. China records receipts from domestic bond sales and central government borrowing from foreign sources as state revenues. China's net domestic bond issues in 1987 were equivalent to $1.1 billion (4 billion yuan), and its net foreign borrowing to cover state expenditures was equivalent to $1.4 billion (5.1 billion yuan).

commissions, and replace 12 other industrial ministries and bureaus with nine new ministries and four state-operated corporations. The net result is an expected reduction in State Council personnel from approximately 50,000 to 40,000. In addition to the fiscal benefits expected from the reshuffling, China's leaders expect it to reduce government interference in enterprise management and to transform ministries into more efficient government organs.

Defense Spending. China releases statistics on national defense spending as a line item in the annual state budget, but provides neither a definition of the categories of expenditure included in the figure nor a breakdown of the total. Our own estimates of Chinese defense expenditures cover spending for investment (primarily weapon procurement), operating expenses (including maintenance and personnel costs), and research, development, testing and evaluation (RDT&E). Using a building-block approach for valuing the costs of these various components, we estimate that China's total defense expenditures for 1986 were roughly 45 billion yuan, more than twice that of the announced budget of 20 billion yuan. Using current exchange rates, this is about $12 billion. We believe the defense budget increased modestly in 1987.

Despite the difference in absolute values, China's announced figures and the CIA estimates both show declining trends in the defense sector's share of China's budget as well as in the size of the defense budget relative to gross national income[5] (GNI). CIA estimates indicate that defense expenditures accounted for about one third of China's total budget in 1978, and only one fifth of the budget in 1987. Moreover, we estimate

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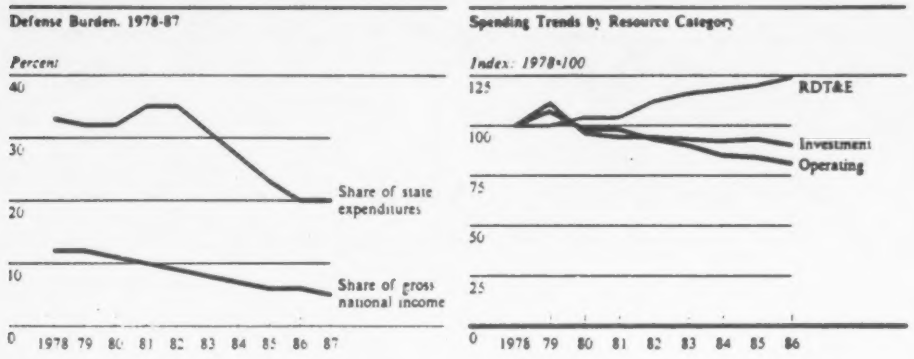
[5] China began to publish gross national product (GNP) figures in 1985, but has provided gross national income (GNI) statistics for the entire 1949-1987 period. In recent years, GNI has been roughly equal to 80 percent of GNP.

Figure 7
Estimated Chinese Defense Expenditures, 1978-87



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China's defense spending dropped from 12 percent of gross national income in 1978 to only 5 percent in 1987--somewhat less than the 7 percent for the United States, and significantly less than the 20-25 percent for the Soviet Union (see figure 7).

China has cut military spending by slashing personnel costs and postponing the procurement of most major weapon systems. Beijing has reduced its armed forces by about 3 million men since 1977, with most of the cuts coming from its ground forces. We believe China's military operating budget--nearly half of which goes for salaries--has declined by about one-fifth over the last eight years. Beijing intends to complete the force reduction by the end of this year, but we believe that it may take several more years before demobilized men find civilian jobs and are moved from military posts. Expenditures on weapon procurement also declined about 10 percent between 1978 and 1986 because Beijing has elected to postpone major weapon purchases until more technologically advanced systems become available. In contrast, we estimate that RDT&E expenditures have increased about 25 percent since 1978, although this category continues to account for only about one-eighth of China's defense expenditures.

The 13th Party Congress

The 13th Party Congress of October-November 1987 was a crucial test of strength for China's reform leaders. In the aftermath of the ouster of Party Secretary Hu Yaobang in January 1987, reform-minded Chinese officials sought to install younger, more pragmatic leaders in positions of authority, defuse ideological questions about the reform program, and obtain an endorsement for a wider role for market forces in the Chinese economy. Those goals were generally achieved:

- Zhao Ziyang was confirmed as Party Secretary, and joined by four new appointees on the Politburo Standing Committee--the most powerful body in the party. These represented a balance between market-oriented reformers aligned with Zhao and officials who, like Premier Li Peng, favor a greater role for the central government in managing the economy. New appointees to the Politburo and the Central Committee also gave these bodies a more reformist cast. And former Party Secretary Hu Yaobang remained on the Politburo, a rebuff to reform opponents who forced his ouster as General Secretary.

- The Congress endorsed an ideological justification for a wide range of reform proposals contained in Zhao Ziyang's work report to the Congress. The "initial stage of socialism" theory provides for a century of experimentation with economic reforms--including private ownership, and the leasing of land and enterprises--as long as the "publicly owned" sector of the economy is predominant.

- Zhao's work report endorsed greater use of markets for distributing raw materials, capital, technology, and labor. The report also indicated that central ministries should focus primarily on making overall industrial policy, leaving the implementation to lower-level entities responding to economic levers. Zhao also previewed some of the foreign trade reforms planned for 1988 as a result of impressive trade performance in 1987.

Reformers' gains were not unqualified, however. Decisionmaking by consensus continues to involve a wide spectrum of opinion about the pace and scope of reform, and a number of influential Chinese leaders remain more comfortable with an economy predominantly controlled by administrative fiat, rather than by market forces. Moreover, reformers face significant practical problems in implementing many policies in the face of high inflation, growing state budget deficits, and large out-of-plan capital investments.

Economic Policy in 1988

Beijing has announced a modest reform agenda for this year that postpones crucial but politically sensitive price reform pending reductions in the inflation rate, increases in grain output, and improvements in enterprise efficiency. Premier Li Peng announced in mid-February--and reaffirmed in his report to the National People's Congress in March--that China's top economic priorities in 1988 would be controlling inflation and improving agricultural output.

Controlling Investment and Inflation. Complementing a freeze imposed on state-controlled prices of consumer goods and public utility fees last fall, in January Beijing announced tighter state controls on prices of key raw materials--including goods produced in excess of state quotas and previously sold at market prices. In addition, Beijing plans to limit growth in the money supply by tightening controls over bank lending, and by requiring successful state enterprises to fund planned expansion by issuing bonds rather than drawing on bank loans, which carry a lower interest rate. The state is also reducing its investment in capital construction. Finally, Beijing is trying to trim personal consumption. Leaders hope that enterprise reforms will slow growth in worker wages and bonuses, thereby curbing demand. Meanwhile, Beijing expects that rent increases resulting from a reduction in state housing subsidies will soak up some of the excess funds now available to consumers.

Managing Agriculture. In the agricultural sector, Beijing is undertaking several major initiatives designed to stimulate grain production:

- Raising purchase prices for grain produced and sold under state contracts. Beijing intends over time to phase out the current dual-track agricultural pricing system either by reducing the share of grain procured under contracts and increasing free-market transactions, raising the prices the state pays for contract grain, or instituting price differentials based on quality with the aim of eventually selling high-quality grain at free-market prices.
- Increasing state investment in fertilizer and pesticide production, transportation and distribution networks, and in agricultural infrastructure projects such as irrigation. Beijing is concentrating rural loans as well as state investment on grain production. Beijing may also invest tax revenues collected from nonfarm rural land use in agriculture.
- Allowing peasants to purchase and transfer land-use rights, which would permit more efficient, larger scale operations. Beijing also recently lengthened the leasing period for rural land from 15 to 30 years. These measures are designed to give farmers a greater stake in the land's upkeep.
- Encouraging peasants to use better seed strains and more tractors and other agricultural machinery in production. Beijing has introduced several state-sponsored S&T initiatives in the last few years that are designed to improve productivity by providing training and funds to rural areas.

Beijing is sensitive to the inflationary impact that substantial increases in grain purchase prices could induce and is searching for ways to minimize costs that must be borne by urban consumers. At the same time, Beijing recognizes that it cannot continue to increase subsidy payments, which are already a substantial drain on the state budget.

A variety of possibilities are under consideration, and will likely be the subject of continued debate in 1988.

Improving Enterprise Profitability. In the industrial sector, Chinese officials have said that the "contract system"--under which state enterprises sign performance contracts with supervisory bureaus specifying minimum output, earnings, and taxes--will form the basis for improvements in enterprise management and efficiency in 1988. China's leaders acknowledge that enterprises must become more efficient before they can absorb increases in input prices that would result from price reform, and believe they must be put on a sound financial footing before they can cope with a hardening of the budget constraint.

Three-fourths of China's large- and medium-sized state industrial enterprises and commercial entities had adopted the contract system by the end of 1987, according to Chinese statistics. In addition, a majority of China's smaller state and collective enterprises had adopted a parallel contract/leasing system that allows factory managers to retain a share of aftertax profits and requires them to put up collateral to cover potential losses.

Chinese leaders believe that the contract system has improved labor productivity and increased profits. In addition, they maintain that the contract system has helped Beijing improve control over unwarranted enterprise investment spending, although China's practice of permitting enterprises to deduct loan principal repayments from taxable income still tends to encourage excessive credit demand. Proponents of the contract system also contend that contracts have relieved some of the pressure on

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managers to issue blanket bonuses to workers, keeping real wage increases in 1987 below the rate of improvement in labor productivity.

Chinese critics argue that the prospects for continued gains under the contract system in 1988 and beyond are less bright, however. For example, many of the one-year contracts were signed in the second half of 1987, thus large worker bonuses for fulfillment of annual contract targets will not be paid until the second half of this year. This, in turn, could exacerbate Beijing's difficulties controlling inflation while also cutting into enterprise profitability.

Critics have found fault with several more fundamental shortcomings as well:

- Contracts do not make good managers out of bad ones, and China's 1987 statistics suggest that while the number of unprofitable enterprises is not increasing, poorly run enterprises are losing ever larger amounts of money.
- The system rewards managers for negotiating low targets that can be easily achieved, rather than for necessarily improving production efficiency.
- The ability of the contract system to encourage greater managerial accountability is limited by Beijing's requirement that large state enterprises employ surplus workers and produce specified goods regardless of profitability or market demand.
- Rising prices for industrial inputs--and a freeze on the prices most enterprises can charge for their final products--means that some factory managers have legitimate excuses for low profitability or even deficits.

- Finally, contracts--which generally carry a one- to five-year term--tend to discourage investments in new technology and capital equipment, which have substantial long-term benefits but little immediate payoff.

Still others point to the stultifying effect of the contract system on China's reform program as a whole, especially on needed changes to the wage and price system. Because last year's strong industrial performance can be traced--at least in part--to the implementation of the contract system, advocates of other industrial and price reforms will face an uphill battle in any attempts to introduce changes to the current tax or price structure that would significantly affect the performance of enterprises that have signed performance contracts.

Chinese leaders expect a new enterprise law approved during the National People's Congress to further improve enterprise performance by curbing meddling by party officials in factory operations and by paving the way for the institution of bankruptcy proceedings against faltering state enterprises. The state enterprise law is one of several recent changes in industrial policy designed to professionalize enterprise management and to hold enterprises and managers responsible for deficits. But, like the contract system, ambiguities remain. Moreover, almost every responsibility spelled out for managers and enterprises in the legislation is subject to other plans and regulations. For example, although the law allows enterprises to set prices for their finished goods, they are still subject to extensive price controls imposed by Beijing. Moreover, the law is vague about the powers of factory party committees, assigning them responsibility for implementing "all party and state policies." Finally, the law does not reduce the authority of government administrative bureaus to set mandatory production targets for factories and to manage supply and distribution of most industrial inputs.

Passage of the enterprise law provides the legal framework for Beijing to institute bankruptcy proceedings against unprofitable state enterprises under the provisions of a trial bankruptcy law passed by the NPC Standing Committee in December 1986. But managers will resist moves to institute bankruptcy proceedings, arguing that they cannot be held accountable for deficits resulting from an irrational price structure, raw material shortages, and bloated work forces. Beijing will probably close only a few enterprises at first, and find new jobs for displaced workers in order to minimize workers' fears that enterprise reforms are a threat to their job stability.

China's Private Sector

During the 1988 National People's Congress, China's constitution was amended to provide a legal basis for China's growing private sector. Chinese statistics indicate that the country's private sector now includes up to 300,000 enterprises and an additional 20 million "individual enterprises." Most of these are one-person or family-run operations, although a few employ several hundred people, according to Chinese press reports. Although the private sector generally leads the country in growth in productivity and output, it employs less than 3 percent of China's industrial labor force and produces less than 1 percent of the country's industrial output.

Reforming the Foreign Trade System. Following the 13th Party Congress, Chinese leaders announced plans to undertake a major reform of the country's trade system--originally planned for 1987 but derailed by both political uncertainties and the tight foreign exchange situation at the start of 1987. In recent months, trade reform has been reaffirmed in several major policy statements:

- The State Council approved a Draft Plan for Reform of the Foreign Trade Sector in December 1987 that calls for individual factories and trading corporations to have greater autonomy in conducting import and export transactions, and to become more responsible for their profits and losses.
- In January 1988, after making several trips to China's coastal provinces, Zhao Ziyang pronounced that the country should undertake an export-driven economic growth strategy centered on attracting foreign investment and expertise to coastal areas. The strategy focuses on using imported raw materials and parts to produce higher value-added labor-intensive industrial goods for export. Acknowledging the crucial role of foreign managerial and technical expertise in developing China's export industries, Zhao's plan calls for further improvements to China's investment climate
- Beijing sponsored three high-level meetings in February and March of this year to discuss foreign trade reforms, China's environment for foreign investors, and the coastal development strategy. Leaders discussed reform experiments planned for Guangdong and Fujian provinces, as well as for Hainan Island--China's newest province and special economic zone.
- Acting Premier Li Peng's March work report to the National People's Congress listed trade reform and the coastal development strategy among China's priorities for 1988.

Two factors account for the attention Chinese policymakers are giving to foreign trade this year. Chinese leaders have said they believe recent changes in the world economy occurring as a result of the appreciation of the currencies of Japan, South

Korea, and Taiwan present China with an historic opportunity to make inroads in Western markets with Chinese export goods priced low relative to similar products from other Asian countries. Second, China's strong trade performance in 1987 and buoyant foreign reserves have given this sector relatively more room for maneuver.

China has not yet approved a final plan for reforming the foreign trade sector. From the numerous statements by Chinese leaders on the topic, however, we believe the reforms will include:

- **Decentralization.** Provinces and municipalities will assume control over local branches of national trade corporations and sign contracts with them--similar to those now used throughout China's industrial sector--assigning levels of exports and foreign exchange earnings. More individual factories will be allowed to handle trade transactions. China's Ministry of Foreign Economic Relations and Trade (MOFERT) and central foreign trade corporations will continue to provide overall policy guidance, handle most of China's barter trade with the Soviet Union and Eastern Europe, approve large-ticket purchases, and monitor foreign sales of items China must restrict because of either domestic supply shortages or foreign import restrictions.
- **Raising Foreign Exchange Retention Rates.** Corporations exceeding their contract targets for foreign exchange earnings will be allowed to keep a share of the surplus. Beijing has also begun to allow exporters of light industrial goods, arts and crafts, and garments to keep a higher percentage of their foreign exchange earnings than most other enterprises. The foreign exchange retention rate also varies from province to province, and as part of China's experimentation

with economic reforms in Guangdong, Fujian, and Hainan, these areas have been given higher rates than the norm.

- **Easing Currency Controls.** As an outgrowth of the new policies on foreign exchange retention, Beijing has announced that Chinese entities with excess foreign currency will be allowed to swap foreign funds for Chinese currency at premium exchange rates in swap centers to be set up in many large Chinese cities. This is an extension of a practice Beijing has permitted for more than a year for foreign-invested enterprises in China and for state-sector Chinese enterprises operating in the special economic zones. While easing central control over the exchange of Chinese currency for foreign exchange, Beijing is also preparing to loosen controls over arbitrage between convertible foreign currencies. China's State Administration for Exchange Control in March of this year authorized financial institutions to handle the buying and selling of convertible foreign currencies on behalf of Chinese enterprises. This will allow enterprises that earn foreign exchange in one currency to import goods purchased with another currency. Chinese factories also will be able to avoid losses in the value of their primarily dollar-denominated foreign exchange holdings if the dollar continues to decline.

Other changes are also contemplated. For example, Beijing may adjust the domestic tax system to favor exporters of high-value-added products. Some Chinese leaders have also proposed that wages of workers in enterprises producing for export be linked to foreign exchange earnings. Finally, there has been much discussion of a plan to make trading corporations into commissioned agents that handle import and

export transactions for a simple service fee. This approach would be designed to make enterprises--rather than subsidized trade corporations--shoulder the financial burden of their imports and reap the benefits accruing from successful export programs.

The impact of these reforms will probably be limited as long as wide discrepancies exist between China's domestic prices and those prevailing in the international marketplace. Although trade corporations and factories will be asked to take responsibility for profits and losses, many will point to factors beyond their control as being responsible for deficits. As a result, decentralization of trade authority may merely transfer responsibility for subsidizing enterprise losses from the central government to a lower level, rather than eliminating the practice. In addition, even though some factories and corporations will be allowed to have foreign exchange accounts, Beijing will retain control over most of the country's foreign currency reserves, as well as the use of retained foreign exchange for imports subject to license approval by the central government. Members of the General Agreement on Tariffs and Trade, to which China is applying for membership, will be watching the progress of China's foreign trade reforms closely to determine whether the changes bring China's foreign trade system more in line with GATT principles.

Outlook for Price Reform. Chinese leaders apparently have not reached a consensus on how and when to make further changes in China's irrational price structure, although most now probably accept the need for prices to accurately reflect relative scarcities in the economy. Without price reform, China's attempts to make enterprises more responsive to market signals--and to hold them accountable for poor investment, production, and personnel decisions via the initiation of bankruptcy

proceedings--will fall short. Firms that are well run and turn out needed products may operate at a loss simply because production costs exceed their product prices. Similarly, Beijing probably recognizes that the problems in China's agriculture sector cannot be resolved without an increase in the price paid to farmers to encourage production of needed agricultural commodities as well as an increase in the state-controlled prices paid by consumers for nonessential foodstuffs for which Beijing wants to curb demand.

But considerable uncertainty remains over precisely how to accomplish needed price adjustments without disrupting the economy, provoking complaints among consumers, or substantially increasing the state's subsidy burden. Chinese leaders apparently are willing to proceed slowly in order to minimize dislocations. Rather than simply freeing all prices and having current economic conditions determine their equilibrium level, Beijing is working to erode the differentials between in-plan and market prices for a variety of commodities--including grain and raw materials--while also boosting production of items in short supply by gradually reducing the share of such items procured under state plans and increasing the share sold at market prices.

Appendix A

Evaluating Beijing's Reforms

China is approaching the 10th anniversary of the watershed Third Plenum of the 11th Party Congress (December 1978) which marked the emergence of Deng Xiaoping as preeminent leader and the adoption of Beijing's economic reform policies. The core of China's reforms is pragmatism. Beijing has scrapped Maoist-period theories of "class struggle" and the pursuit of modernization through political mass mobilization in favor of rational development strategies, including decentralization of economic decision making authority, greater use of material incentives, and increased economic contact with the West. Many of the reforms are not new to China, but had been tried or were at least discussed in the mid-1950s and the early 1960s. But the period since 1978 is the first time that these policies have been implemented without interruptions such as the Cultural Revolution of the mid-1960s.

Changes came first and have progressed furthest in the countryside. Only isolated remnants remain of the Maoist commune system under which local party officials exercised almost absolute control over rural production decisions and peasants' daily lives. Farming is now conducted by individual households which lease land from the state under long-term contracts. Apart from having to supply some grain to the state according to procurement agreements worked out at the local level, peasants have wide latitude to decide whether to grow grain or cash crops and livestock. Millions of peasants have left farming in the past few years to work in rural industries and transport or commercial enterprises. Nevertheless, the government still retains an important role in the rural economy. For instance, peasants still depend on state supply

units to market some of their excess grain and to supply farm inputs, including machinery and fertilizer.

Significant changes in the leadership and operations of urban state enterprises have also been implemented in the past nine years. Beijing has replaced many factory directors with younger and better educated managers. Moreover, Beijing has increased the amount of revenues that factories can retain and allowed managers greater discretion to use those revenues for capital construction or worker wages. Because factories are allowed to sell at market prices any production exceeding the quotas assigned in the central plan, output of key industrial materials, such as coal and steel, have increased rapidly. Thus many enterprises now purchase at least some output at prices well above those set by Beijing for in-plan production. However, upper-level economic bureaucracies and factory party officials still maintain close ties with and supervisory control over most state enterprises. And political and economic restraints limit managers' decisionmaking authority. For instance, managers have the right to fire workers, but choose to maintain bloated work forces rather than face the wrath of displaced workers. To diminish resistance to layoffs, reformers have argued that China should construct a social safety net that would supplant the welfare functions that state enterprises now assume, but Beijing has not made much progress in implementing one.

That Chinese workers on the whole have benefited from reform is indisputable. Rapid gains in standards of living are evident in the countryside where a housing boom is under way, and in Chinese cities where an improvement in the quality and style of clothing is readily apparent. Increases in agricultural and industrial output have caused an improvement in workers' diets and an increase in per capita ownership of durable

goods such as bicycles and refrigerators. However, despite these signs of improvement, urban residents complain about housing shortages, pollution, and inadequate services such as an overcrowded transportation system. Moreover, the real income of some urban residents has fallen in recent years, and both urban and rural per capita income remains low by world standards. Finally, media discussion of an enterprise bankruptcy law and policies that would increase labor mobility have probably increased workers' concerns that new reforms will decrease job security.

Charting the Reforms

Deng Xiaoping and other key reformers maintain that the gains from reform far outweigh the negative spillovers and argue that the shortcomings can be corrected only through implementing additional policies. Even so, the reform program has been buffeted both by political controversies and unforeseen economic developments. In order to track the progress of reforms to date, it may be useful to divide the program into three periods.

Phase One: Agricultural Success 1978-1984

From 1978 to 1984, implementation of rural policies dominated the domestic reform program. The period began with limited experiments with the "household responsibility system," under which individual farm households took control of fields, making planting decisions and working the land with little interference from outside authorities. These experiments began in Sichuan Province under the leadership of Zhao Ziyang, and in Anhui Province under Wan Li. By the end of the period, this system had displaced the production team approach--the last vestige of the collective system

established in the mid- and late-1950s--throughout most of the country. Along with increased state prices for farm produce, greatly expanded free market outlets, and good weather, the reforms produced a string of bumper harvests culminating in the record 1984 crop. Indeed, China became a net grain exporter in 1985.

Most other domestic reforms--including those in industrial management, finance, and science and technology--have their roots in this period as well. Chongqing city in Sichuan, for example, was an early test site for experiments granting greater autonomy to factories. And selected research institutes began to sign contracts with factories as enterprises attempted to improve production and efficiency by applying new technology and as researchers sought to make science serve the economy as a whole. But the scope of these nonagricultural reforms remained relatively limited through the early 1980s.

Domestic reforms during this period were accompanied by a more open economic policy toward other countries and regions. Beijing, in particular, sought to attract Western investment and technology to Chinese industry. To persuade potential investors of its enduring commitment to open up to the outside world, Beijing passed a law on joint ventures in 1979, and began a massive technology import program that centered on purchases of complete plants and equipment from Japan, the United States, and Western Europe. By 1980, Beijing had also established four Special Economic Zones in South China to entice foreign investors by offering favorable tax rates and investment terms. Beijing intended for these zones to be "windows" where China could study foreign manufacturing technology and management, while keeping the negative side effects of capitalism out of China proper. The zones also had a political objective--to

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demonstrate Chinese tolerance of non-Communist economic forms as part of efforts to woo Hong Kong and Taiwan by Deng's "one country, two systems" approach.

Phase Two: Urban Reform 1984-1987

Building on the success of rural reforms, and having rebuffed a challenge during late-1983 by party members who believed that Western "spiritual pollution" threatened China's social fabric, reform leaders in late 1984 moved to apply market-oriented policies to the urban industrial sector. Zhao Ziyang's work report to the National People's Congress in May 1984 and Hu Yaobang's speech to the Party Plenum in October 1984 both marked this phase and stand as high water marks for reform optimism.

Despite this optimism, the period following Hu's speech brought reformers unexpected economic difficulties and sobering choices. To begin with, grain output fell in 1985 after four years of strong growth, initiating a period of lagging production, and triggering debate over agricultural policies that continues.

Furthermore, reformers misjudged their ability to maintain macroeconomic control once urban reforms began. A surge in wage and bonus payments and imports beginning in late 1984 contributed to economic overheating in 1985, forcing Beijing to rein in credit, slow price reforms, and recentralize control over foreign trade in the face of mounting inflationary pressure and a precipitous decline in China's trade balance.

Reform policies suffered another blow in early 1985 when criticism of the Special Economic Zones--especially Shenzhen--surfaced. Despite massive infrastructure buildup at Beijing's expense, the zones had failed to attract manufacturing investment,

becoming centers of real estate and currency speculation instead. They were also a breeding ground for independent "briefcase" trading companies that engaged in profitable--but unproductive--import and export transactions. Shenzhen in particular became a conduit for imports of high-demand consumer goods and microcomputers entering China at reduced tariffs; independent traders also made money by exporting and then re-importing Chinese goods and collecting state subsidies on both transactions to cover the difference between domestic and international prices. A major car-import scandal in South China that broke in early summer 1985 added fuel to the charges of corruption and mismanagement. China had invested too much political and economic capital in developing the zones to abandon them, but the developments of 1985 temporarily tarnished the reputations of the zones and of the local leaders.

Reforms in this period had their successes. Beijing successfully boosted exports of textiles and other manufactured goods to make up for lost oil export earnings. The booming rural enterprise sector made progress in absorbing surplus farm labor. And overall economic growth continued at an impressive pace. But performance in key areas--particularly China's state-owned industrial sector--was disappointing. If anything, initial urban reforms worsened performance in some state factories, raising costs and making managers more concerned about worker welfare than about production efficiency. Critics also found fault with China's massive technology imports after discovering that shortages of qualified technical personnel, resource and energy constraints, inadequate incentives for factory managers, and poor technology choices idled much of China's expensive foreign equipment.

This period was also marked by an increasingly open debate over appropriate reform strategy. Deng helped maintain the appearance of leadership unanimity by carefully positioning himself between those who favored bolder initiatives and those who favored a slower pace and narrower scope for reform. But public disturbances, including student demonstrations in late 1986 reinforced the fears of some leaders that reforms were proceeding too quickly and might even undermine the authority of the party.

Party chief Hu Yaobang's fall in January 1987 was precipitated by complex political forces, but in the process, reformers lost one of the most vocal and powerful supporters of faster political liberalization and greater reliance on consumer-driven economic development. Although the orthodox-oriented "antibourgeois liberalization" campaign that followed Hu's fall was brought to a close within a few months, high inflation and lagging grain output during the year narrowed the range of policy options open to China's economic leaders in the near term, and thus limited the scope of policy debates.

Phase Three: Stressing Stability 1987-Present

The current situation in China is a mixed bag for reform proponents. "Reform" remains the political watchword, Zhao Ziyang--a key reform leader--has replaced Hu Yaobang as party chief, other young reformers have taken their place on the Politburo, and some party officials who voiced strong skepticism about the reform program have been soundly rebuffed. Indeed, it is no longer possible to speak simply of "reform leaders;" all Chinese leaders are now reformers in the sense that they are economic pragmatists who favor some degree of expanded scope for market forces in China's economy.

At the same time, however, strains in the economy have led Chinese leaders to postpone some important aspects of the reform program--including price reforms--and led leaders to use administrative controls to rein in inflation and maintain control over imports. One indication of the increased caution that marks this period is the lengthening time frame for reform--reform leaders and economists now speak of decades to achieve basic reform goals. This trend towards a longer time horizon may in fact be a more realistic assessment of the changes China must go through as it moves toward a more market-oriented economy.

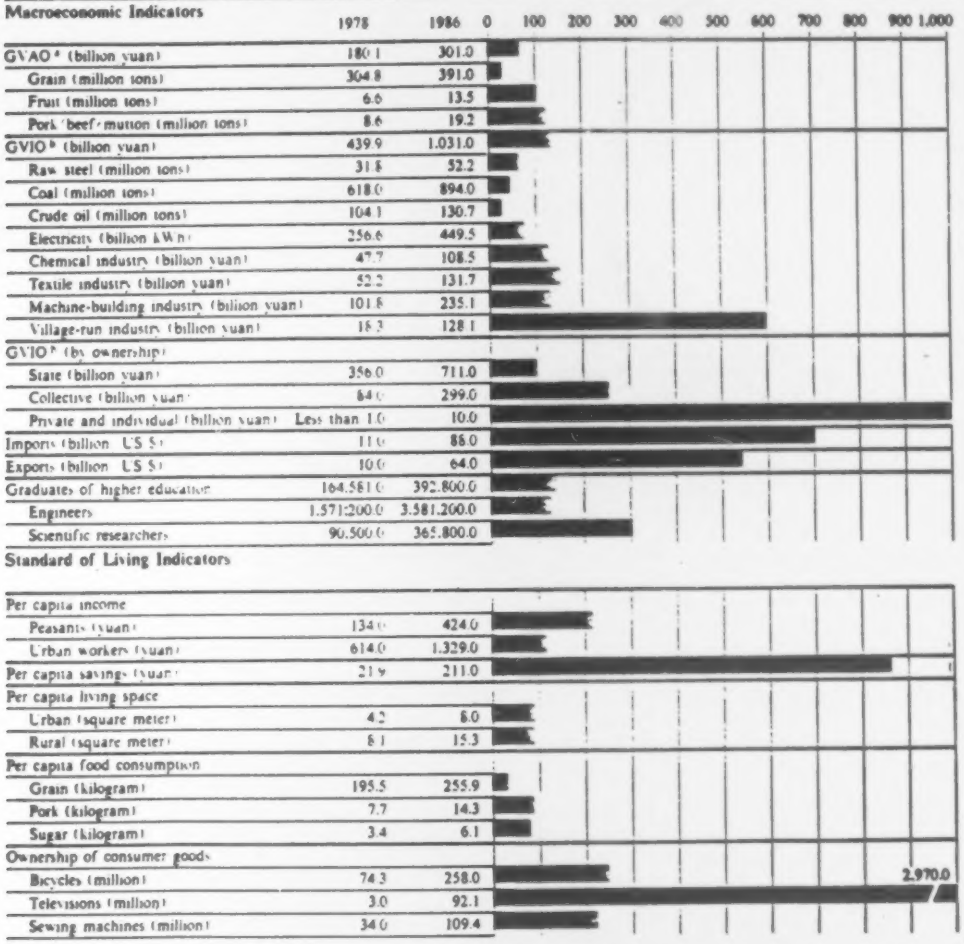
Another characteristic of the current period is the loss of a clear goal as well as the proper path to be followed, in contrast to 10 years ago when simply implementing pragmatic policies constituted a reform agenda. One assessment of the current state of reforms is that China now risks stalling out half way on the road to a market economy. Such an assessment can be read between the lines when some economists point to China's current half-reformed, half-planned state, or even in Zhao's statement that a "pause" in reforms could turn into a retreat. Other Chinese deny that the goal of reform is a market economy, asserting instead that it has been to create "socialism with Chinese characteristics" under which market forces would co-exist with state control. Therefore, although all Chinese leaders now consider themselves reformers, a consensus over the ultimate shape of a reformed China is notably lacking.

China: Selected Economic Indicators

Percent change over eight-year period

Macroeconomic Indicators	1978	1986
GVAO[a] (billion yuan)	180.1	301.0
Grain (million tons)	304.8	391.0
Fruit (million tons)	6.6	13.5
Pork/beef/mutton (million tons)	8.6	19.2
GVIO[b] (billion yuan)	439.9	1,031.0
Raw steel (million tons)	31.8	52.2
Coal (million tons)	618.0	894.0
Crude oil (million tons)	104.1	130.7
Electricity (billion kWh)	256.6	449.5
Chemical industry (billion yuan)	47.7	108.5
Textile industry (billion yuan)	52.2	131.7
Machine-building industry (billion yuan)	101.8	235.1
Village-run industry (billion yuan)	18.3	128.1
GVIO[b] (by ownership)		
State (billion yuan)	356.0	711.0
Collective (billion yuan)	64.0	299.0
Private and individual (billion yuan)	Less than 1.0	10.0
Imports (billion US $)	11.0	86.0
Exports (billion US $)	10.0	64.0
Graduates of higher education	164,581.0	392,800.0
Engineers	1,571,200.0	3,581,200.0
Scientific researchers	90,500.0	365,800.0

Standard of Living Indicators		
Per capita income		
Peasants (yuan)	134.0	424.0
Urban workers (yuan)	614.0	1,329.0
Per capita savings (yuan)	21.9	211.0
Per capita living space		
Urban (square meter)	4.2	8.0
Rural (square meter)	8.1	15.3
Per capita food consumption		
Grain (kilogram)	195.5	255.9
Pork (kilogram)	7.7	14.3
Sugar (kilogram)	3.4	6.1
Ownership of consumer goods		
Bicycles (million)	74.3	258.0
Televisions (million)	3.0	92.1
Sewing machines (million)	34.0	109.4



[a] Gross Value of Agricultural Output
[b] Gross Value of Industrial Output

All figures in 1980 constant prices. GVAO and GVIO calculated according to new coverage, with village-run industry included under GVIO. Per capita peasant income and per capita urban and rural living space figures based on sample surveys.

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Appendix B

China's Foreign Investment Policies

In recent years, Western investors have publicly voiced their concerns about limited access to the Chinese market, difficulties in obtaining the foreign exchange needed to remit profits and support their operations, rising costs of materials and wages, bureaucratic red tape, and China's inadequate transport, communication, and power infrastructure. Many have also expressed uneasiness with the paucity of commercial legislation pertaining to important investment issues.

Over the last year and a half, Beijing has published a number of national laws fleshing out more general guidelines on foreign investment that were promulgated in October 1986. The new legislation:

- Affirms the rights of joint ventures to hire and fire Chinese workers.
- Exempts joint ventures from import licenses and duties for components used to produce exports.
- Allows joint ventures with insufficient foreign exchange to obtain hard currency by exporting Chinese goods not produced by the joint venture itself or by using Chinese-currency profits to buy foreign exchange from joint ventures with a surplus.
- Exempts remitted and reinvested profits from income tax, reduces tax rates for export-producing enterprises and ventures that employ advanced technology in production, and cuts in half the tax on income earned by foreigners resident in China.

- Gives joint ventures permission to charge Chinese customers foreign exchange for goods produced in Sino-foreign joint ventures that would otherwise have to be imported.

Beijing also has permitted cities and provinces to experiment with additional provisions designed to encourage investment inflows into their localities, and most have done so--often vying with other regions to attract needed foreign investment. And the March 1988 National People's Congress approved a new law on contractual joint ventures designed to encourage foreign partners to engage in nonequity forms of joint production activity. Although Beijing passed a law on equity joint ventures in 1979 and a law on wholly foreign-owned ventures in 1986, the legal status of contractual joint ventures has been poorly defined, leaving much room for negotiation during the initial stages of an agreement--and subsequent differences of interpretation. Even without the legislation, however, foreign firms signed more than 5,000 agreements to set up contractual joint ventures in China, and 40 percent of China's paid-in foreign investment has come from contractual joint ventures.

These changes have provided a legal basis for improvements in China's environment for foreign investment. Considerable uncertainty remains, however, in how the regulations will be implemented. For example, foreign investors must have their operations designated "export-oriented" or "technically advanced" in order to be eligible for preferential tax and other treatment; precisely how Beijing makes these determinations is unknown. There is also a great deal of discretion in how Beijing chooses to define "import substitutes" that are allowed to charge foreign exchange for domestic Chinese sales, as well as the percentage of the price that may be collected in hard currency.

Beijing, moreover, continues to determine prices of inputs supplied to foreign-invested enterprises as well as the prices at which joint venture products may be sold within China. With the frequent price fluctuations now occuring in China, potential investors often have difficulty projecting their ability to earn a profit. And despite the legal basis for joint ventures to hire and fire workers, as a practical matter, many continue to have difficulty attracting skilled Chinese workers to take jobs that are viewed as less secure than work in state-sector Chinese enterprises.

Appendix C

A Comparison of Chinese and Soviet Economic Reforms

Similarities	Differences
Agriculture	
--family contract system	--in the Soviet Union, the family contract is only one form of labor organization on the farms; in China, family contracts predominate
	--Soviets retain collective and state farms; Chinese dismantled communes
	--less than 15 percent of Chinese grain output is under mandatory state procurement; two-thirds of net Soviet farm output under state procurement
	--Chinese peasants have more latitude to choose what to grow or to start rural industries
Enterprise Management	
--enterprises have more decisionmaking authority over day-to-day operations	--Soviet plan still predominates; Chinese have considerably reduced central planning
--enterprises may retain higher share of profits	--Soviet workers elect all managers, ministries "confirm" plant directors; Chinese supervisory bureaus appoint managers
Prices, Wages	
--increasing mechanisms to link pay to production	--Beijing already has decontrolled many prices, but prices of key goods are still controlled by central authorities; Soviets plan to give enterprises limited authority to set prices

--allowing some portion of goods to sell at market-influenced prices	--Soviets plan revisions of centrally-controlled wholesale and retail prices; further Chinese price reform on hold
Foreign Trade	
--strong central control of trade	--China has opened Special Economic Zones with broad incentives for foreign investors
--selected entities allowed to deal directly with foreign firms	
--allowing joint ventures	--China permits wholly-owned ventures and has agreed to thousands of joint ventures; Soviets limit foreign share to 49 percent and have established relatively few joint ventures
Bankruptcy	
--used as a threat to boost efficiency	--Soviets passed law last year; Chinese passed law in 1986, will take effect in late 1988 or early 1989
--not intended to force widespread plant closures	
Private Enterprise	
--encouraging some small, individual businesses, primarily in service industries	--Mostly confined to students, housewives, and pensioners in Soviet Union; widespread in Chinese countryside, about 3 percent of urban labor force

STATEMENT OF JAMES HARRIS, DEPUTY CHIEF, CHINA DIVISION, OFFICE OF EAST ASIAN ANALYSIS, CIA, ACCOMPANIED BY HAROLD WILCOX, CHIEF, POLITICAL ASSESSMENTS, CHINA DIVISION, AND ERIN McGUIRE ENDEAN, SENIOR INTERNATIONAL TRADE ANALYST

Mr. HARRIS. Thank you, Mr. Chairman. It is a pleasure to be here today.

With me are Harold Wilcox, who is Chief of our Political Assessments Branch, and Erin Endean, who is our Senior International Trade Analyst, and who did most of the drafting of the report. And I thank you. I am glad you find it useful.

Senator PROXMIRE. I understand Michelle Norris, of the Office of Congressional Affairs, is also here.

Mr. HARRIS. What we thought we would do is have Mr. Wilcox begin with a discussion of leadership politics. Then Ms. Endean will discuss China's recent economic performance, and I will close with a discussion of recent trends in China's defense expenditures and arms sales.

Senator PROXMIRE. I would appreciate it if you could abbreviate those introductory statements, and if we don't cover them in the question period, you can indicate at the end what we have missed.

But go right ahead. Mr. Wilcox.

LEADERSHIP IN STRONGER POSITION

Mr. WILCOX. Mr. Chairman, what I would like to do in the next few minutes is simply summarize why we think the reform leadership in China is in a stronger position today than it was, say, 6 months ago or even a year ago, but really had not been able to push aggressively ahead with its reform program.

Now, when the China Division briefed the committee last August, as you may recall, the Chinese leadership was still in seclusion trying to hammer out the final arrangements for the 13th Party Congress. By then the very intense political infighting in the leadership, which has been so open and obvious after the fall of Hu Yaobang, had moved back behind closed doors. As a consequence, we were very unsure how these meetings would turn out. At issue was whether the reform activists with the support of Deng Xiaoping would be able to overcome their more conservative critics and gain the personnel and policy changes that they wanted at the Congress.

Second, even if they were generally successful, we were not sure that they would adopt a bold or retain a very cautious approach to attacking the economic problems, especially lagging agricultural production, budgetary deficits, and inflation that have frustrated their efforts to move ahead with broader systemic changes over the last few years.

ZHAO'S AUTHORITY REINFORCED

On balance, we believe the reformers have scored some significant gains over the last 6 months. Most important, Zhao Ziyang was confirmed at the Congress as the General Secretary of the Party, and he retains control of a key Party committee which is responsible for formulating economic reform policies, a position

normally held by the Premier. He was also added to the Party's powerful military commmission, which puts him in a position to cultivate the military.

These moves reinforce Zhao's authority over the reform program and improve his chances of ultimately succeeding Deng.

DENG INDUCED CRITICS TO STEP DOWN

Second, and almost as important, Deng succeeded in inducing some of the strongest critics of reform among the Party's old guard to step down from key Party and state posts, in favor of a younger, better educated, more pragmatic set of leaders. This means that they are no longer able to influence, on a day-to-day basis, the policy decisions that are made in the Government, but that does not mean that they are no longer powerful or influential.

Third, the Congress endorsed the theory of the initial stage of socialism—a theory Zhao hopes to use to lend ideological legitimacy to the market-oriented reforms that he favors. This is important, because the reform program has been particularly vulnerable to attack on ideological grounds over the last 4 or 5 years.

Fourth, Zhao was subsequently successful in winning approval for a plan to restructure the State Council and the civil service. This plan, if implemented as intended, will not only streamline the operations of the Government, making them more efficient, but dramatically change how it functions. In essence, what Zhao hopes to do is restructure the Government in such a way that it actually facilitates the implementation of market-oriented reforms.

MOVE TOWARD LIMITED DEMOCRACY

Finally, reformers have begun to open up the political system to allow greater public scrutiny and debate over policy issues. This was particularly evident at the recently concluded National People's Congress, the legislative arm, in effect, of the Government. This move toward limited democracy, however, is only in its formative stage, and it is unclear how far Zhao and the other reforms are prepared to push it.

Despite these gains, we believe the dominance of Zhao and his allies with Deng's support remains far from complete. The new politburo, which is the most important policymaking body within the Party, continues to represent a cross section of the reform coalition that has governed China since 1978. Although Zhao was able to put a number of his allies on this body, by and large, it continues to consist mainly of middle of the road reformers, essentially, compromise candidates, people who are younger, certainly more pragmatic than their predecessors, but not necessarily ardent supporters of market reforms.

CONSERVATIVES RETAIN STRONG VOICE

More conservative reformers continue to retain a strong voice in these bodies. Among them is Li Peng, recently confirmed as Premier. Li Peng and Vice Premier Yao Yilin, another conservative reformer have, in fact, gained increasing responsibility of late over the implementation of reform policies, a development that may not bode well for Zhao's ability to retain control of the reform agenda.

Since the October Party Conference, moreover, the overall thrust of the reform program has been basically cautious.

ECONOMIC GOALS

Government economic policies, as laid out by Li Peng in his work report to the National People's Congress, indicate that Beijing's main goals this year will be: One, to increase investment in agriculture, a major conservative theme over the past 2 years. Two, fully implement the so-called contract responsibility system, an administrative mechanism designed to increase the efficiency of state-owned enterprises. Three, employ fiscal and monetary policies to try to bring inflation under control. And last, but not least, promote Zhao's strategy development of coastal regions through export-led growth.

PRICE REFORM POSTPONED

Price reform, which reformers regard as essential to the creation of a market economy, will be extended only in agriculture, and limited even there, to spurring greater grain production. Many Chinese economists now acknowledge that general price reform will be put off for several more years.

What does this cautious tack suggest? To us, it indicates that Zhao and his allies are still not in a strong enough position to push their own reform agenda. Instead, Zhao must wheedle, cajole, and bargain with other leaders to win support for the policies he favors. Indeed, Zhao remains heavily dependent upon Deng's support and must constantly look over his shoulder to ensure that he is not leaving himself vulnerable to attack from powerful conservative Party elements.

Second, it reflects the fact that the leadership remains divided, not only over the best means of promoting reform but over the ultimate goals of reform themselves. Should China have a predominant market economy or some mix of marketing and planning is an issue that is still unresolved.

Third, there is a recognition, even among Zhao's more radical advisers, that the problems the leadership now faces are much more complex and less susceptible to simple, low-risk solutions. As a consequence, there is no consensus, even among these reformers over what mix of policies to pursue.

Finally, there is broad concern within the leadership that inflation, unless brought under control, could trigger serious urban unrest, similar to what occurred in Poland in 1980.

We believe these factors have reduced, at least for the present, the leadership's willingness to push risky, far-reaching reforms and prompted it instead to fall back on more familiar administrative means to bring economic problems under control.

That is the end of my statement.

Senator PROXMIRE. Thank you very much, Mr. Wilcox.

ECONOMIC PERFORMANCE

Ms. ENDEAN. Mr. Chairman, I will present a brief overview of China's mixed economic performance last year, in order to provide an economic context for some of the difficult policy choices the leaders now face.

INFLATION

Two economic problems most concerned China's leadership last year: excessive inflation and lagging grain output.

Officially, China's inflation rate was 7 percent.

Senator PROXMIRE. What was the second?

Ms. ENDEAN. Lagging grain output. Officially, the inflation rate was set at 7 percent in 1987, an improvement over the 9-percent rate in 1985, but higher than any other year in the last decade. Urban consumers were especially hard hit. Food prices rose at double-digit rates. Inflation rates of over 20 percent were reported in several major cities.

LAGGING GRAIN OUTPUT

Second, grain production did not meet Beijing's target level, even though China produced more than 400 million metric tons, a feat accomplished only once before, in 1984. Strong consumer demand for grain-based foods and moderate international prices led China last year to more than double its grain imports, becoming a net grain importer, after 2 years as a net exporter.

RATIONING

To dampen demand and minimize inflationary pressures, Beijing resumed the practice of issuing ration tickets for poultry, eggs, and sugar in several major cities. The inflation rate and a disappointing agricultural output have led Beijing to avoid economic policies with less than certain outcomes—that is, policies that could worsen rather than improve price stability and grain production.

Tighter central controls over prices, bank credit, and out-of-plan investment, plus increased state spending on agricultural infrastructure projects are proven ways of reducing upward pressure on prices and stimulating grain output and for the core of Beijing's approach to these problems.

INDUSTRIAL OUTPUT

In areas where the economy performed more positively, such as industry, leaders plan to continue successful strategies implemented last year. Urban industrial output rose 15 percent, profits and taxes remitted to the state increased nearly 10 percent, and labor productivity was up 8 percent in 1987. Between May and December, three-fourths of China's largest state enterprises signed performance contracts with supervisory bureaus, specifying output, earnings, and taxes. The contracts have reined in enterprise spending, investment, and worker bonuses. The contract system will likely remain in place at least through this year and some Chinese leaders would like to see it made a permanent feature of industrial policy.

FOREIGN TRADE

The contract system also forms the basis for reforms of China's foreign trade sector, another sector that performed well in 1987. China's trade deficit declined by 70 percent, from $12 billion in 1986 to only $3.7 billion last year. Foreign direct investment picked

up after a disappointing 1986, and China's foreign exchange reserves jumped more than 50 percent to $15 billion.

The particularly strong record has permitted leaders to consider adopting more fundamental reforms in the management of foreign trade. This year, Beijing has increased the autonomy of provinces, municipalities, and selected factories over imports and exports, and has encouraged some factories to step up their exports by allowing them to retain a larger share of the foreign exchange they earn. Beijing has even begun to allow Chinese enterprises to exchange surplus foreign exchange for domestic currency at premium rates in officially sanctioned swap centers, another inducement to export. As an industry, these changes are designed to make individual factories more responsive to market conditions, benefiting from export sales and paying out of their own funds for imports.

PRICES

Improvements in agricultural performance, enterprise efficiency, and export earnings will be limited by China's irrational price system, however. Prices paid to grain farmers will have to increase to encourage production. Indeed, Beijing has already announced that grain procurement prices will rise. Industrial prices will also have to be adjusted, if the bankruptcy regulations are to have any effect. Unprofitable firms now complain that high-input prices and low prices for their final products account for their difficulties, rather than inefficiency or poor investment choices. Similarly, trade corporations and factories asked to assume responsibilities for profits and losses will point to discrepancies between China's domestic prices and those prevailing in the international marketplace as responsible for deficits.

But crucial price reforms could bring many undesirable effects as well. Grain price increases will either fuel inflation—provoking complaints among urban consumers—or substantially increase the state's subsidy burden. Systemic industrial price reforms would dramatically alter the profitability of China's factories, making it difficult for many to meet performance contracts and probably cutting into state tax receipts. Industrial price reform would also alter the profitability of export-producing enterprises and could cut into China's foreign exchange earnings.

CAUTIOUS APPROACH PRUDENT

In light of these problems, Beijing's cautious approach appears prudent. Indeed, we believe the caution represents a growing realism about the difficulties of implementing systemic changes rapidly. Even China's more vocal proponents of economic reform appear willing to proceed slowly, in order to minimize both consumer unrest and more widespread economic dislocations.

This is not to say that the crucial price reforms are on hold permanently. Indeed, China's leaders are already working to erode differentials between inplan and market prices for a variety of commodities, including grain and raw materials, anticipating that output increases resulting from modest price adjustments will moderate inflationary pressures.

That is the end of my statement.

Senator PROXMIRE. Thank you very much.
Mr. Harris, do you have a statement?
Mr. HARRIS. I do.
Senator PROXMIRE. Go ahead.

DEFENSE SPENDING

Mr. HARRIS. Mr. Chairman, since our presentation last year, we have undertaken a major new analytical effort to estimate China's expenditures on defense, similar in approach to that employed by our Office of Soviet Analysis to estimate Soviet spending.

As you probably know, China releases statistics on national defense spending as a line item in the annual state budget but provides neither a definition of the categories of expenditure included nor a breakdown of the total.

Our own estimates of Chinese defense expenditures cover spending for weapons procurement and maintenance, personnel costs, and expenditures on research and development.

Using our building block approach for valuing the costs of these components, we estimate that China's total defense spending for 1986, which is the last year for which we have a complete set of data, were roughly 45 billion yuan, which is more than twice the announced defense budget of 20 billion yuan. At current exchange rates, our estimates would amount to about $12 billion, and we believe the defense budget has increased only modestly since then, based on the partial data we have for 1987.

Despite differences in our estimates and those of the Chinese Government's, both show declining trends in the defense sector share of China's budget, as well as in the size of the defense budget relative to GNP.

CIA estimates indicate that the defense expenditures, measured in constant 1986 yuan, accounted for about one-third of China's total budget in 1979 and only one-fifth of the budget in 1987. [Security deletion.]

China achieved cuts in defense spending by reducing personnel costs and postponing procurement of major weapons systems. Spending on research and development, in contrast, has increased over the last decade. To compensate for constraints on the defense budget, China's military has been aggressively marketing arms in the international market over the same period. [Security deletion.]

Mr. Chairman, that concludes our oral testimony.

We would be glad to entertain any questions you may have.

Senator PROXMIRE. Thank you very much.

Mr. Harris, I am going to ask you questions, because I am not sure which of your colleagues you would like to refer the question to. You can either answer yourself or refer them to one of your colleagues, or maybe all three of you want to answer or two can answer.

GNP GROWTH

First, your report shows that Chinese's GNP, corrected for inflation, and I stress that, in real terms rose by 9.4 percent last year. That appears to be the most rapid growth of any major nation in

the last few years, but you call that a mixed performance, partly because inflation went up by 7.3 percent.

What is your forecast for GNP growth in China over the next few years?

Ms. ENDEAN. The Chinese are hoping for annual growth in GNP between now and the year 2000 of about 7.5 percent. We believe that is a reasonable estimate for growth.

Senator PROXMIRE. That would be a great deal less than in recent years; wouldn't it?

Representative SCHEUER. 7.5 percent a year?

Ms. ENDEAN. 7.5 percent.

Senator PROXMIRE. They had much more rapid growth. They had double-digit growth in what was it, 1984 and 1985?

Ms. ENDEAN. I think the Chinese would like to see some of the rapid growth that has occurred in recent years moderate somewhat, because the high industrial growth rates, for example, have strained many supplies of raw materials and energy.

Representative SCHEUER. Excuse me. Could you be kind enough to speak into the microphone?

Senator PROXMIRE. The microphone isn't working.

AGRICULTURAL GROWTH

Ms. ENDEAN. The high industrial growth rate has been one of the factors contributing to the shortages of supply of raw materials.

Senator PROXMIRE. A great deal of this growth has been in agriculture; is that right?

Ms. ENDEAN. In the last 2 years, agriculture has only grown about 3 percent a year, so most of the recent growth in the GNP is actually from the industrial side.

Senator PROXMIRE. That is a big change.

Ms. ENDEAN. Yes, it is.

Senator PROXMIRE. Initially, it was agriculture.

Ms. ENDEAN. Yes, for the early 1980's.

Representative SCHEUER. I am not able to hear you at all. So if you could keep your voice up, I would appreciate it.

"DISCRIMINATE DETERRENCE" REPORT

Senator PROXMIRE. Mr. Harris, earlier this year, the Commission on Long-Term Strategy issued its final report entitled "Discriminate Deterrence" containing some startling figures about China. The Commission says that by the year 2010, China may have the world's third-largest economy. As I pointed out earlier, they have a minor economy now. A chart in the Commission's report shows China's GNP at about $1.4 trillion in 1990 and about $3.7 trillion in 2010.

Before I ask you to comment on that, I think those figures could not be correct, because if there is a $286 billion GNP in 1986, you are not going to go to $1.4 trillion in 1990. In a 3-year period, you would have to quintuple the size of the economy. No economy on Earth has ever done anything like that. You're saying growth is slowing down. You are predicting a growth of approximately 7 and a fraction percent over the next few years.

Mr. HARRIS. Yes.

Senator PROXMIRE. Why are these figures so far off?

Mr. HARRIS. I think what they did was to make some fairly radical assumptions about the size of the economy now, based on internal prices in China being too low relative to those that prevail in the international marketplace. And their reasoning, I think, was that the economy is really much larger than the $280 to $300 billion we think it is today.

You can argue that case. But we tend to agree with you that their estimates are way high. [Security deletion.] We believe—based on 1986 numbers and the sort of growth rates they have exhibited recently—that the economy could easily triple in size between 1986 and the turn of the century. Still, that gives you an economy that is barely a trillion dollars.

Japan's economy currently is about $2 trillion, and it's really difficult for me to see how China is going to catch Japan, despite the fact that it has more than a billion people.

Representative SCHEUER. Despite the fact that what?

Senator PROXMIRE. Despite the fact that it has many more people.

RELIABILITY OF STATISTICS

Now last year, you told us that the Chinese data on the whole are not as statistically reliable as that released by industrialized and newly industrialized countries, yet I notice that your report is based almost entirely on Chinese official statistics.

Why don't you provide us with the CIA's own estimates adjusted for the problems in the official figures, as is done in the hearings that we have on the Soviet economy?

We don't trust the Soviet economy, but their figures are probably more reliable and more accurate than the Chinese economy, based on what I discussed.

Mr. HARRIS. Well, I would like to turn this over to Ms. Endean. [Security deletion.]

Basically, we use the Chinese Government's statistics as starting points, and in our testimony, we include references to Chinese statistics simply to let you know where we began.

Ms. Endean, what else would we need to say?

Ms. ENDEAN. I would add that we do think that the Chinese statistics are fairly reliable indicators of general trends, increases and decreases, particularly——

Senator PROXMIRE. What is a reliable indicator of general trends?

Ms. ENDEAN. Chinese statistics are fairly reliable, if you are looking at aggregate trends, increases and decreases. I think they are less reliable when you look at disaggregated Chinese statistics—such as rural industrial output—because of the problems in collecting statistics across a very broad economy, and because of differences between Western and Chinese accounting methods for some items, such as the national budget.

DISAGREES WITH GROWTH PROJECTIONS

Senator PROXMIRE. Would you flatly disagree with the argument that China, by the year 2010, could have an economy bigger than

the Soviet Union and an economy that would be perhaps the second or third biggest in the world?

Mr. HARRIS. Yes. We disagree with that view.

Senator PROXMIRE. Could you give me some notion as to how their economy would compare with developed countries under those circumstances at that time?

Mr. HARRIS. Well, currently, China clearly has the second-largest economy in East Asia. They will certainly have at least that rank in the year 2010. They will probably be relative to the present size of the economy, at least four times as large, but as I pointed out a few moments ago, that still leaves you with an economy that is much——

Senator PROXMIRE. If it is 286 now, it means it is a little over a trillion dollars.

Mr. HARRIS. Yes.

Senator PROXMIRE. That is at the turn of the century; all right.

Mr. HARRIS. Of course, we can be generous on growth rates and err on the high side, and I still don't think we get an economy in 2010 that is anywhere near as big as Japan's economy is today.

PRICE INDEX AND UNEMPLOYMENT

Senator PROXMIRE. Last year you told us the CIA did not publish a price index nor do you estimate an unemployment rate in China.

Does that mean you make estimates, but do not publish them or that you do not make the estimates?

In either case, why not?

Mr. HARRIS. As for the unemployment rates, we don't make independent estimates for any developing countries. In general, open unemployment rates aren't very meaningful. There is so much disguised unemployment and labor inefficiency, that open unemployment rates don't tell us very much, particularly in the developing world, where there is a lack of social insurance systems to support the openly unemployed. It simply doesn't mean very much to say that they have open unemployment.

As far as prices are concerned, Ms. Endean?

Ms. ENDEAN. We do not independently test a market basket of goods to estimate Chinese price indexes. Therefore, the only price indexes that we have are Chinese indexes.

Mr. HARRIS. We can test them anecdotally, and we think that if there were an enormous divergence, we would know about it. Let me say that.

DEFENSE SPENDING

Senator PROXMIRE. The report says that China spent about $12 billion for defense in 1986 and that the defense budget increased modestly in 1987.

How much was spent for defense in 1987 and what was the rate of change?

Ms. ENDEAN. The Chinese announced budget projected 2-percent growth in defense spending in 1987 over 1986.

Senator PROXMIRE. Two percent?

Ms. ENDEAN. Two-percent growth. As Mr. Harris mentioned, we have not yet completed our own calculations for 1987.

Senator PROXMIRE. How trustworthy, in your judgment, is the Chinese estimate for defense spending?

Do you feel it is quite reliable and accurate, or is it subject to some question?

OFFICIAL STATISTICS UNDERSTATE EXPENDITURE

Mr. HARRIS. As I indicated, we calculate their actual defense spending as more than twice what they announce it to be.

In terms of growth rates, I wouldn't place great reliability on those either, but our evidence so far is that defense spending did not increase radically in 1987 and, indeed, the trend over the last 10 years is decidedly downward, in real terms.

Senator PROXMIRE. Why do they understate their defense spending?

Mr. HARRIS. I don't think that they feel anyone outside of China has a right to know, frankly, and they are not about to provide anyone with any sort of breakdown.

What we have to do——

Senator PROXMIRE. Why would it make any difference to them? Their defense spending is so much lower than ours and so much lower than the Soviet Union's. Just a tiny fraction, $12 billion, compared to $300 billion. That is about 4 percent of ours and probably even less than the Soviet Union. Maybe they want to—they are afraid that if they state the truth, that they will look very weak.

Mr. HARRIS. I think it is partly Chinese concern for its Third World credentials that leads them to understate it so drastically. They don't really like a high profile on defense affairs.

Mr. WILCOX. I think that is right. There is also just a natural tendency among the Chinese leaders to be secretive about the most prosaic facts.

Senator PROXMIRE. I think they'd get a low profile if they told the truth. I think—I misunderstood. I thought that they had overstated their defense. They actually understate it. In other words, they are spending much more than they admit.

Mr. HARRIS. They spend more than twice what they admit.

Senator PROXMIRE. That is very strange.

Ms. ENDEAN. May I just add one comment?

China's publicly released defense budget figure appears just as a single number. We really have not a very good idea what it encompasses. In part, the difference between their announced figure and our own estimates may not be so much a deliberate attempt to conceal the defense spending, but it could be just different methodologies for accounting for, for example, research and development, which is occurring in Chinese institutes that do research for both the defense and the civilian sectors.

Senator PROXMIRE. Let me ask you, if you allow fully for inflation, is real defense spending declining?

Ms. ENDEAN. Yes, it is.

Senator PROXMIRE. It is declining?

Ms. ENDEAN. Yes.

Senator PROXMIRE. How much?

Ms. ENDEAN. If you look from 1979 to 1987, in constant 1986 dollars, which is one way of taking out the inflation factor, I believe real defense spending has declined more than 15 percent.

Senator PROXMIRE. Over what period?

Ms. ENDEAN. From 1979 to 1987.

Senator PROXMIRE. Declined about what?

Ms. ENDEAN. More than 15 percent in real terms.

Senator PROXMIRE. Is any part of that because they are not engaged in military activities? Obviously, in a period of military action, their defense spending is higher.

Ms. ENDEAN. Yes. The 1979 figures were inflated because of the Vietnam-China conflict at that time; however, real defense spending has also declined, if you look at, say, 1981 through 1987, although not quite as dramatically.

Senator PROXMIRE. There was a period of peace.

Ms. ENDEAN. Yes.

ARMS SALES

Senator PROXMIRE. Last year I raised questions about the sale of weapons, particularly the Silkworm missile, to Iran.

Your answer was classified. Since then, much information about the subject has appeared in the public press.

What can you tell us about China's sale of weapons to Iran or the sale of weapons that end up in Iran and how much of that information can now be declassified?

Ms. ENDEAN. [Security deletion.]

Senator PROXMIRE. On April 7, the Washington Post had an article, and the Los Angeles Times did too, which concluded as follows:

> Western estimates place the value of China's international arms sales, which have increased dramatically over the past decade, at $2 billion or more a year since 1986.

Ms. ENDEAN. [Security deletion.]

TECHNOLOGY TRANSFER TO THIRD COUNTRIES

Senator PROXMIRE. I am aware that China has agreed not to transfer licensed items of technologies received from the United States to third countries.

As a practical matter, is there any way to enforce this restriction? It may not be known which specific technologies have been incorporated into weapons sold to a third country.

Ms. ENDEAN. China has signed an agreement with the United States and with other COCOM allies, members of the Coordinating Committee on Multilateral Export Controls, not to retransfer to any third countries, technology that they have obtained through the United States or COCOM licensing procedures. If it is determined that they have retransferred that technology to the Soviet bloc, for example, or really to any third country, China risks the possibility of having some of the liberalized export control procedures under which it is currently treated revoked.

Senator PROXMIRE. Can you enforce it by just saying, if you do that, we won't sell you any of our weapons?

Ms. ENDEAN. The specific mechanism is through the export control procedures. [Security deletion.]

ECONOMIC REFORMS ON BACK BURNER?

Senator PROXMIRE. For the past 2 years, I have been arguing that the Chinese leadership seems to be putting expansion of economic reforms on the back burner.

In the appendix of your report, you say that strains on the economy led Chinese leaders to postpone some important aspects of the reforms, and China now risks stalling about half way on the road to a market economy.

First, hasn't the CIA been a little slow to realize that the momentum for the reforms was being lost, and aren't you——

Mr. HARRIS. I don't think that they have lost yet. There is that danger, which we have seen on other socialist countries, and we have seen it in China as well. We would be remiss if we didn't pay a certain amount of attention to it, but I don't think we have reached the point yet where we can say that the reform momentum is completely lost. The momentum is something to be sustained, and I think over the next year or so, we will be in a position to say whether China is going the way of some other failed socialist experiments or not.

Right now, it is too early to say that.

Senator PROXMIRE. When you say that China risks stalling out half way on the road to a market economy, do you mean that if reforms go no further, economic progress may be threatened? And China may then revert back to the former system of central planning?

Mr. HARRIS. Certainly, if reforms go no further, it is going to limit what they will accomplish, in terms of growth and also as a foreign trader. They can probably go a bit further, using the administrative reforms that Mr. Wilcox was talking about, but certainly we would reach a point in the early 1990's, where the economy would begin to stall. This would be particularly true in foreign trade.

REFORMS IN INDUSTRIAL SECTOR

Senator PROXMIRE. Is it correct that while major reforms were introduced successfully in the farm sector, in the agricultural sector, that there have been difficulties in introducing them in the industrial sector?

Mr. HARRIS. That is true. Ms. Endean, do you want to talk about that?

Ms. ENDEAN. Yes. That is true, but despite the difficulty in implementing some of the incentive-based reforms in the industrial sector, China has nonetheless achieved astounding increases in industrial output.

Senator PROXMIRE. You indicated earlier, I think, that the industrial sector is moving ahead better than the agricultural sector.

Ms. ENDEAN. In terms of growth rates, that is right.

Senator PROXMIRE. Maybe the weather had something to do with it. That would seem to be the case.

Ms. ENDEAN. Yes, weather is one factor——

QUANTITY VERSUS QUALITY

Mr. WILCOX. I think you have to make the point, though, that we are talking about quantity, not quality. One of the problems that China still faces is increasing the quality of the products that they turn out and also turning out the types of products that are useful in their economy.

Turning out more widgets that no one uses, and that simply pile up in a storehouse somewhere, can certainly be counted as having increased the GNP, but that's misleading.

Senator PROXMIRE. Do you think that is the major reason for the slowdown in expanding the reforms in industry and other sectors, that their quality has not been adequate?

Mr. WILCOX. Quality is still a very serious problem.

Senator PROXMIRE. What other factors are there?

INFLATION AND AGRICULTURE

Ms. ENDEAN. I think the very real concern with the impact on inflation of introducing the market-oriented reforms in industy has been the major factor that has slowed the introduction of industrial reforms.

Senator PROXMIRE. In the farm sector, the decentralizing of the economy has reduced inflation, hasn't it?

I mean, they have come on like "Gangbusters" with more food production and the result is that the prices, they have been able to cut the prices. That is one of the reasons why they haven't, I suppose, expanded as sharply in recent years as they did earlier.

So it has been deflationary.

Ms. ENDEAN. Well, it's been very up and down, I would say. One of the areas where price increases have been greatest in recent years, has been in food. Food prices have increased more than 20 percent in the last couple of years. So the reforms introduced in the agricultural sector have reduced prices in some cases, but increased prices in others.

Senator PROXMIRE. Is that because, while the production has increased on the farm, the transportation from farm to market and in the processing of the food to make it available to consumers has not progressed?

Ms. ENDEAN. That is right. Distribution is one factor, but increased demand on the part of consumers is a major factor. Consumers are interested in eating more meat, more bread, drinking more beer. All of those require grain inputs and thus strain grain supplies.

PRICE REFORM

Senator PROXMIRE. I understand that the leadership has postponed efforts at price reform. While they used to talk about achieving price reform in a few years, it now refers to several decades.

Why is price reform such a crucial element in changing the Chinese system? Why are they having so much difficulty with it?

Mr. HARRIS. I can answer part of that, and I will let Ms. Endean answer the rest of it.

One of China's major economic problems is low efficiency of investment. The Chinese regularly invest 30 percent of GNP, but it is not very effectively invested. It is invested in the wrong industries, in industries that have poor prospects for international competi-

tiveness, for example. Price reform would change that. It would enable investors to respond to a set of signals that gave them more accurate information as to how profitable capital expenditures might be. That is one of the reasons that price reform is essential to China's future growth.

As far as the difficulties of implementing price reform, I will let Ms. Endean answer that.

Ms. ENDEAN. I outlined some of the difficulties in my opening statement, but let me go into a little more detail here.

INFLATION

One of the difficulties is, of course, the inflationary impact. Generally, when prices are decontrolled, they rise. That is the immediate impact. They may stabilize after production increases, as well, but the immediate impact is inflationary, and generally, if China's inflation rate is running at 6 percent or more, that's sort of a trigger level for them to impose stricter controls over prices.

INDUSTRY

Another problem with introducing price reforms affects the industrial sector. We have seen that where China has decontrolled prices of raw materials, factory managers complain that while the prices for their inputs are increasing, the prices for their final products are not allowed to increase. That is one of the factors that accounts for their inability to turn a profit.

So there is resistance among consumers, who fear inflation. There is resistance among factory managers, who fear being held accountable for losses that they don't admit responsibility for.

Senator PROXMIRE. Let me ask you a different question. And it is one that concerns me, and I am sure it concerns other Members of Congress.

NUCLEAR ARMS SALES

Have the Chinese sold any nuclear arms or items or materials, processed plutonium, uranium, to be used in producing nuclear arms?

Ms. ENDEAN. [Security deletion.]

Senator PROXMIRE. Are they a member of the nonproliferation treaty that provides for inspection to verify whether or not there has been a transfer of weapons-grade material? International inspection?

Mr. HARRIS. No, I believe not.

Senator PROXMIRE. That treaty—it is my impression they are not, and they are one of the few nations that are not, which, of course, raises the question, and I wondered if the CIA has any other independent information that makes it appear that they may have sold uranium or plutonium.

Ms. ENDEAN. [Security deletion.]

INFLATION RATES

Senator PROXMIRE. What are the inflation rates in each of the past 5 years in China?

Ms. ENDEAN. In 1986, it was 6 percent. In 1985, it was 8.8 percent. So the inflation rate in 1987 was not as bad as in 1985, but——

Senator PROXMIRE. It was 7 point something?

Ms. ENDEAN. 7.3 percent in 1987, the second worst rate over the last 10 years.

Senator PROXMIRE. In general, have they been rising?

Ms. ENDEAN. They have risen over the course of 1987. The year started with about a 5-percent inflation rate during the first quarter and ended up with a double-digit inflation rate.

Senator PROXMIRE. Why is that?

Ms. ENDEAN. Decontrol of pricing is one reason. Another is excessive growth in the money supply. China has a great deal of difficulty using financial levers such as interest rates to regulate the monetary system.

CENTRAL BANK

Senator PROXMIRE. Do they have a central bank like the Federal Reserve Board?

Ms. ENDEAN. Yes, they do. The People's Bank of China is in charge of regulating the money supply.

The third reason has to do more with demand——

Senator PROXMIRE. Can you give me an idea of how much of any increase in M1 or M2 they have had?

Ms. ENDEAN. About 30 percent.

Senator PROXMIRE. A 30-percent increase in what? M2?

Ms. ENDEAN. M2.

Senator PROXMIRE. It is amazing they don't have more inflation than they have. Why do they have such a huge increase in M2? They can control that.

Mr. HARRIS. They don't have the leverage to control it. They don't have open market operations, for example.

Senator PROXMIRE. How do they have an increase in their money supply, if they don't have control over the money supply, and it is coming from the Central Government?

Mr. HARRIS. Well, provincial banks can issue credit. It is a standard banking system, but they don't have—my impression is——

Senator PROXMIRE. So the individual banks are able not to have a direct effect—there are a number of them, obviously—on the overall money supply, but in aggregate, they have a system of such freedom, much more than we have, apparently, that they can increase the money supply, independent of any central determination?

Mr. HARRIS. I wouldn't say altogether independent. Let's just say the Central Bank does not have the leverage in China that our Central Bank has for controlling the money supply, not yet.

Senator PROXMIRE. And that is supposed to be a totalitarian Communist country, and their Central Bank has weaker control than the Fed.

Mr. HARRIS. It is a developing country, and all LDC's have these problems.

CORRUPTION

Senator PROXMIRE. How widespread is the problem of corruption in domestic and international transactions and how much effort has the Government put into reducing corruption and how successful is it?

Mr. WILCOX. I would have to say that corruption is rather pervasive within the system, but it is very difficult to measure. The leadership talks a lot about corruption.

Senator PROXMIRE. Let me be a little bit more specific. Bribery.

Mr. WILCOX. We would have to talk in anecdotal terms. Certainly, there is a lot of bribery that goes on.

Senator PROXMIRE. In international trade?

Mr. WILCOX. In international trade, yes, there are certainly many efforts made by Communist officials to try to get kickbacks on contracts. It is fairly widespread.

Senator PROXMIRE. You say it is fairly widespread.

How do we know? Is it increasing? How does it compare with that of other developing countries?

Mr. WILCOX. I would say it is almost impossible to measure. It is very difficult to measure.

Senator PROXMIRE. But you feel confident in saying it probably doesn't differ very much from other countries?

Mr. HARRIS. Well——

Mr. WILCOX. Probably not, I would say. [Security deletion.]

BALANCE OF PAYMENTS

Senator PROXMIRE. I note there is not much discussion of China's balance of payments. There is no balance-of-payments table in the report.

Why is that material absent? What is China's balance of payments?

Ms. ENDEAN. In 1987, China's current account balance was nearly even. They had a merchandise trade deficit of about $3.7 billion but net service earnings of $3.4 billion.

So the current account was very slightly in the red.

The capital account balance improved with a pickup in foreign direct investment. They continued taking on foreign loans and continued sales of gold.

Senator PROXMIRE. You say that they have an adverse balance of payments of $3 billion plus?

Ms. ENDEAN. The current account balance was in the red about $300 million.

Senator PROXMIRE. $300 million?

Ms. ENDEAN. Yes. Very slight. Earnings on the capital account primarily were used to boost China's foreign exchange holdings, which were about $15 billion at the end of 1987.

Senator PROXMIRE. That is like the observation of the Chancellor of the Exchequer of the United Kingdom, who was asked why England had had no balance-of-payments problems before the turn of the century. And he said, it is because we had no balance-of-payments statistics.

Can you give us a balance-of-payments statement?

Ms. ENDEAN. For the hearing record? Yes.

[The following information was subsequently supplied for the record:]

CHINA: BALANCE OF PAYMENTS, 1983–87

[In millions of U.S. dollars]

	1983	1984	1985	1986	First half 1986	First half 1987
Current account	4,487	2,509	−11,811	−7,448	−4,525	−3
Trade balance	1,990	14	−13,123	−9,140	−4,905	−658
Exports, fob	(20,707)	(23,905)	(25,108)	(25,756)	(11,548)	(13,341)
Imports, fob	(−18,717)	(−23,891)	(−38,231)	(−34,896)	(−16,453)	(−13,999)
Services (net)	1,986	2,053	1,069	1,313	192	544
Credit	(4,275)	(4,819)	(4,533)	(4,813)	(2,044)	(2,524)
Debit	(−2,289)	(−2,766)	(−3,464)	(−3,500)	(−1,852)	(−1,980)
Net unrequited transfers	511	442	243	379	188	111
Capital account (net)	284	−693	7,202	5,457	3,085	2,106
Medium- and long-term borrowing	820	734	3,148	4,545	2,626	2,179
Drawings	(1,572)	(1,468)	(4,349)	(6,286)	(3,217)	(3,242)
Repayments	(−752)	(−734)	[1](−1,201)	[1](−1,741)	[1](−591)	(−1,063)
Foreign direct investment	636	1,258	1,658	1,875	626	669
Portfolio investment in China	20	83	764	1,193	939	753
Other medium- and long-term capital	−304	−467	−1,235	−624	−278	−388
Short-term capital and errors and omissions [2]	−888	−2,301	2,876	−1,532	−828	−1,107
Overall balance	4,771	1,816	−4,609	−1,991	−1,440	2,103
Reserves and related items [3]	−4,771	−1,816	4,609	1,991	1,440	−2,103
Foreign exchange	−3,992	−1,666	4,763	1,399	1,440	−2,064
Reserve position in IMF	−176	−79	−77	−38	.....	−19
SDRs	−121	−71	−77	−86	.....	−21
Use of IMF credit [4]	−482	.....	.....	716	.....	.....

[1] Includes an estimate for unrecorded repayments of $80 million in 1985, $67 million for the first half of 1986, and $215 million for 1986 as a whole.
[2] Includes valuation adjustment.
[3] (−) indicates increase.
[4] Net of valuation adjustment.

Source: International Monetary Fund.

TRADE TRENDS

Senator PROXMIRE. Can you briefly discuss the trends in Chinese trade with the hard currency countries, and the extent to which the shortage of hard currency limits that trade?

Ms. ENDEAN. More than 90 percent of China's merchandise trade is conducted on a hard currency basis.

Senator PROXMIRE. More than 90 percent?

Ms. ENDEAN. More than 90 percent. The only partners with whom China conducts significant barter trade are the Soviet Union and some East European countries. And the Soviet Union accounts for only about 3 percent of China's trade. Eastern Europe, as a whole, accounts for another 3 percent.

Senator PROXMIRE. What are your estimates on the trade with the hard currency countries in the next few years?

Ms. ENDEAN. We expect both imports and exports to grow over the next few years, with exports probably growing somewhat more rapidly than imports, as part of the overall export push.

Senator PROXMIRE. Roughly, by what rates?

Ms. ENDEAN. Exports last year grew at 28 percent. That is higher than we can expect over the next few years. The Chinese would like to see——

Senator PROXMIRE. You think they will be growing at 10 to 15 percent?

Ms. ENDEAN. Yes. The Chinese would like to see 10 to 12 percent annual growth in exports between now and the year 2000.

EXPORTS

Senator PROXMIRE. What are China's principal exports?

Ms. ENDEAN. China's No. 1 export is textile yarn and fabrics. Petroleum follows second. No. 3 would be clothing—garments, finished apparel. [Security deletion.]

IMPORTS

Senator PROXMIRE. How about imports?

Ms. ENDEAN. China imports primarily capital equipment and machinery to use in industry, iron and steel, and as we mentioned in our opening statement, they increased imports of grain in 1987.

Senator PROXMIRE. From what country do they import most of their equipment.

Ms. ENDEAN. Most of their equipment?

Senator PROXMIRE. Europe, the United States, Japan?

Ms. ENDEAN. The United States, Japan, and Western Europe all supply large shares of capital equipment.

Senator PROXMIRE. Roughly equal shares?

Ms. ENDEAN. In terms of high-technology equipment, I can say that the United States and Japan each supply about 30 percent. Japan supplies about a third of China's imported capital equipment, and West Germany and the United States are also major suppliers, with 10 to 15 percent each.

Senator PROXMIRE. What are China's major sources of hard currency and how important are arms sales?

Ms. ENDEAN. Major sources in terms of countries?

Senator PROXMIRE. Products.

Ms. ENDEAN. Textiles, petroleum, and clothing. [Security deletion.]

FOREIGN DEBT

Senator PROXMIRE. What has been the trend in China's indebtedness to hard currency lenders?

What portion of that indebtedness is to the United States?

Ms. ENDEAN. With the decentralization of trade that began to occur in 1984 and 1985, there was also a decentralization in borrowing. In other words, China was permitting provinces and municipalities to take on foreign debt themselves. During that time there was a rapid increase in the amount of debt that they took on.

In 1985 and 1986, they were borrowing more than $7 billion a year. That has tapered off in 1987. I believe they borrowed about $5 billion last year and, in fact, they used about half of that to repay earlier loans. They also succeeded in lengthening the maturity structure of their debt—in other words, postponing payments. Most of the debt has been taken on in yen, which has hurt them as the yen has appreciated. U.S. dollars have also been a large share.

Senator PROXMIRE. Do they lend any money?

Ms. ENDEAN. Small amounts, primarily to Third World countries for development assistance.

Senator PROXMIRE. What are the prospects for new hard currency borrowing over the next several years?

Ms. ENDEAN. We believe China's annual borrowing levels will remain about where they were in 1987, assuming that their current account remains roughly in balance, which is what we are projecting at this point. In 1987, they borrowed about $5 billion.

Senator PROXMIRE. What is the total foreign debt of China? How much does she owe? Do you have any idea of that?

Ms. ENDEAN. The net debt, if you take out what they have repaid, is in the range of $25 billion to $30 billion.

Senator PROXMIRE. That is higher than it has ever been, I presume.

Ms. ENDEAN. Yes.

Mr. HARRIS. The figure $29 billion comes to mind.

Senator PROXMIRE. $29 billion?

Mr. HARRIS. $29 billion.

Ms. ENDEAN. They reported slightly lower levels than that themselves.

Senator PROXMIRE. How do they rate as a debtor country? Are they among the top 10?

Ms. ENDEAN. I will respond for the hearing record to that.

[The following information was subsequently supplied for the record:]

As a debtor, China ranks 13th among nonindustrialized countries.

Mr. HARRIS. China is a modest borrower.

FOREIGN DEBT PROJECTIONS

Senator PROXMIRE. Let me ask you about the projections on the total foreign debt of China.

In 1985, they said it was $19.8 billion; 1986, $27.2 billion; 1987, $29.9 billion. This year they think it will go to $41.2 billion. In 1989, $67.9 billion, and then it rises to $81.8 billion. In 1991, $88.3 billion. In 1992, $102.3 billion.

Mr. HARRIS. That is a pretty heroic set of assumptions. If he is right, I will give him $100. We have no way to know what the debt is going to be in 1992. It depends entirely on their trade performance and their appetite for foreign capital. I don't think the Chinese themselves know that.

Senator PROXMIRE. The reason I raise that, this comes from the Wharton Econometric Forecasting, a very reputable group, and it is radically different from your estimates.

I was wondering if you had any explanation for their being so different.

Mr. HARRIS. They are a little bit higher than we are on——

Senator PROXMIRE. A great deal higher—well, not on current debt. But you said $29 billion, didn't you?

Mr. HARRIS. I said $29 billion.

Senator PROXMIRE. They said $29.8 billion for 1987.

Mr. HARRIS. So they were within a billion.

Senator PROXMIRE. Then they see it going up rapidly in 1988 to $41 billion. Then $102 billion.

You don't see that increase?

Mr. HARRIS. I can't see them going to $41 billion at the end of 1988, did you say?

Senator PROXMIRE. In 1988, they say it would be $41 billion.

Mr. HARRIS. I think that is way high. It is $5 billion high, I would guess. And I can't see the Chinese borrowing $11 billion this year. They are trying to cut back.

Senator PROXMIRE. Let me read a brief outlook analysis from their executive summary.

They say:

> With the successful reform-oriented leadership transition at the Autumn Party Congress, prospects are excellent for continued expansion of exports sales and acceleration of foreign direct investment. At the same time, China's imports will follow a cyclical pattern of expansion in 1988 to 1990, followed by a contraction or slow growth in 1991 and 1992. This trade and borrowing pattern mirrors the anticipated fluctuation in domestic reform and the surge in spending expected as the current Five-Year Plan nears its end, continued rapid export growth matching that in 1987, will benefit from the increased sophistication of China's garment, consumer electronics and basic machinery exports and will also reflect restored or strengthened bilateral trade ties with Japan, EEC and selected developing countries. Despite export successes, import surges will outpace export earnings. China will increase its foreign borrowing during this period in the from of both loans and direct investment. The prospects for stable political leadership are very good throughout the outlook period, as Zhac Ziyang takes over the few remaining responsibilities still held by Deng.

Mr. HARRIS. Qualitatively, we agree with it, but you can grant all the words you just read from the report, and you still don't come out with $41 billion in debt at the end of the year.

Ms. ENDEAN. I think our principal difference also would be on the import side. We agree that their exports will grow fairly rapidly over the next few years. But I believe that statement indicated that there would be cyclical changes in imports, which we agree with in general terms. However, we believe Beijing will retain very close control over imports either through the licensing mechanism that is now in place or through approval procedures that determine how—and if—individual factories and trade corporations can use the foreign exchange that they have on hand, which remains at this point very closely controlled. So our principal difference is in looking at imports. We frankly don't project quite as rapid growth on that side as perhaps the Wharton estimate does.

Senator PROXMIRE. I want to thank you very, very much for your testimony. You have done a fine job. We are in your debt.

I hope you can declassify this as soon as you can and sanitize the hearings as soon as possible.

We would like to have it as promptly as we can.

Mr. HARRIS. Thank you for having us.

Senator PROXMIRE. Thank you. The subcommittee is adjourned.

[Whereupon, at 11:25 a.m., the subcommittee adjourned, subject to the call of the Chair.]

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